

# MANUFACTURERS' RECORD

A WEEKLY SOUTHERN INDUSTRIAL RAILROAD AND FINANCIAL NEWSPAPER.

## CONTENTS.

### EDITORIAL.

British Interest and Confidence in Southern Development	5
An Official Forecast of the South's Supremacy in Iron Making	5
What the General Use of Cotton Bagging Means	5
Steel Railroad Ties	5
Editorial Short Notes	5, 6
The South's Prosperity	38
The MANUFACTURERS' RECORD in New England	41
A New Englander's Opinion on the South's Future	41
An Old Town Revived	41

### CONSTRUCTION DEPARTMENT.

Full particulars regarding all industrial enterprises organized in the South during the past week	38-40
Building Notes	40
Burned	40
Machinery Wanted	42

### INDUSTRIAL NOTES.

Trade Notes	45, 50
Illustrated Description of Machinery	45
Iron Market Report	66
Eastern Lumber Markets	70

### CORRESPONDENCE AND NOTES.

Cost of Making Pig Iron—Overwhelming Logic of Commissioner Wright's Figures in Support of the South	6
An Expert's Opinion—Prof. Shaler on the South's Future	7
The Boston Southern Bank—Indorsements of Congressmen and Bankers	8, 9
Industrial Notes from Middlesborough	10
Letters on the MANUFACTURERS' RECORD's Work for the Advancement of Southern Interests	10-13
The Animus Behind the Force Bill	36
A Distinguished Southern Journalist Indorsing Our Mississippi Valley Work	41
Growth of Salem	41
Buena Vista, Va.	41
Weyer and Fountain Caves	42
Cardiff Notes	42
The Chattanooga District	42
The Mississippi River—Building of the Eads Jetties	65
General Notes	71

### FINANCIAL DEPARTMENT.

New Banks	36
Bonds, Stocks and Other Notes	36
Southern Stock Quotations	37

### RAILROAD DEPARTMENT.

Arkansas and Her Railroads	35
Various Railroad Notes	35
Railroad Construction	35

VOL. XVIII  
No. 1.

\$4.00 per year.  
Single Copy  
10 Cents.

Baltimore, August 9, 1890.

[FOR ALPHABETICAL INDEX" WITH PAGES, SEE PAGE 73]

Sheet Metal Working Machinery.  
Niagara Stamping and Tool Co.  
Shingle and Stave Machinery.  
See Woodworking Machinery.)  
W. E. Hill & Co.  
S. K. Light.  
W. Van Noorden & Co.  
Vale & Co.  
Soap-makers' and Butcher's Scales.  
H. Wm. Dupp & Son.  
A. W. Houchin.  
Stand-1-Pipe.  
C. McNeil Co.  
Sharon Boiler Wks., Lim.  
Porter Mfg. Co., Lim.  
Steamers.  
Day Line Steamers.  
Baltimore Steam & Light Co.  
Detroit & Cleveland  
Steam Navigation Co.  
Goodrich Transport Co.  
Polchester Co.  
Steam separator.  
Geo. A. Barnard.  
Steel.  
Chicago Regulator Co.  
Chas. Burgess.  
Steel Ralls.  
See also R. R. Equipment and Supplies.)  
Tenna Steel Co.  
Wm. Watson.  
Testing Machines  
standard Scale Co.  
Lieble Bros.  
Textile Machinery and Supplies.  
Schau & Uhlinger.  
Haddess S. Cobb & Co.  
Providence Belting Co.  
James Smith & Co.  
Hatch & Treck.  
American Supply Co.  
Cremiah Clark.  
Promption Loom Wks.  
Jobe Machine Works.  
Geo. Draper & Sons.  
A. J. Richardson & Co.  
Whitinsville Spinning Co.  
Geo. Clark.  
A. V. Smith.  
Textile Machinery (Second Hand).  
Haddess S. Cobb & Co.  
Godfrey & Co.  
Tires.  
Standard Steel Works.  
Golden (Machine & Hardware).  
Linden Mch. Co.  
Nicholson & Waterman Mfg. Co.  
Stevens Arms & Tl Co  
Low Flexible Shaft Co.  
E. Whitton Mch. Co.  
Cleveland Trv. Drill Co.  
Harrison Morse Tool Co.  
Harrington Son, & Co.  
Dodge & Davis Machine Tool Co.  
Ebastian-May Co.  
Centis Tl. & Sup. Co.  
Atlanta Iron & En. Wks.  
F. & Jno. Barnes Co.  
L. Shepard.  
Wincoat & Maulie.  
Standard Tool Co.  
10th Mo.  
g Stone Gap, Va.  
ndford City, Va.  
aredo, Texas.  
endun, Va.  
aray, Va.  
urray, N. C.  
enna Vista, Va.  
field, Tenn.  
oma, Va.  
redgar, Ala.  
rd, Tenn.  
reensboro, N. C.  
aham, Va.  
asgow, Va.  
asas, Texas.  
ackwood, Tenn.  
effield, Ala.  
aynesboro, Va.  
asemer, Ala.  
lem, Va.  
nison, Tex.  
ddlesborough, Ky.  
Truicks.  
icksaw Iron Works.  
Vaires.  
ckton Bros.  
nction Valve Co.  
rtin Regulator Co.  
nkenheimer Brass Mfg. Co.  
nison Regulator Co.  
kins Bros.  
ndon Valve Mfg. Co.  
eavor Cutting Machines.  
See Woodworking Machinery.)  
Ventilators.  
o. P. Clark.  
rchant & Co.  
ron Htg. & Ven. Co.  
Van Noorden & Co.  
eney & Hewlett  
Watchman's  
Clocks.  
Geo. Elect. Mfg. Co.  
ndy Mfg. Co.  
Water Closet.  
Jones, Jones & Cadbury Co.  
Water Motors.  
arfield Mfg. Co.  
Water Wheels.  
C. Alcott & Son.  
entown F. & Mch. Co.  
ristiana Mch. Co.  
Lefel & Co.  
dney Hunt & Mch. Co.  
Huff & Mch. Wks.  
entment on Page 21.

for  
M 294  
V. 11  
1890



**CARD CLOTHING. JAMES SMITH & CO. Woolen Machinery**  
PHILADELPHIA, Manufacturers of PENNSYLVANIA.

**Milling Outfits for Flour and Meal.**  
WE MAKE ROLLS AND PORTABLE MILLS COMPLETE.  
Manufactory Established in 1851. Pamphlets with Prices Mailed Free.  
**NORDYKE & MARMON CO., INDIANAPOLIS, IND.**




**ELEVATORS** **MORSE ELEVATOR WORKS.**  
**MORSE, WILLIAMS & CO.** Successors to OLEM & MORSE.  
Manufacturers and Builders of HYDRAULIC STEAM, BELT and HAND-POWER PASSENGER and FREIGHT ELEVATORS. With most approved Safety Devices, Dumb-Waiters, Automatic Hatch-Doors, &c.  
Office, 1105 FRANKFORT AVE.; Works, FRANKFORT AVE., WILDEY AND SHACKANAXON STREET, PHILADELPHIA, PA.  
Send for Illustrated Circulars. Branch Office, 108 Liberty St., New York. MORTON, REED & CO., 3 & 5 German St., Agents for Baltimore. Boston Office, 14 High St.

**MINING, TUNNELING AND QUARRYING MACHINERY.**  
The New Ingersoll-Sergeant Air Compressors.  
GADDERS, **ROCK DRILLS,** QUARRY BARS.  
STONE CHANNELING MACHINES. COAL MINING MACHINES.  
Send for complete priced catalogue of Mining, Tunneling and Quarrying Machinery.  
**INGERSOLL-SERGEANT ROCK DRILL CO.,** 10 Park Place, New York.

**Southern Electrical Supply Co.**  
HEADQUARTERS FOR  
**Electrical Goods of all Kinds, from a Wire Staple to a Dynamo.**  
Okonite Wire Cables and Tubing. Candeo Weather-Proof Line Wire. Okonite and Manson Tapes.  
Write for Catalogues. 823 Locust Street, bet. 8th & 9th, St. Louis, Mo.



**The LARGEST DRY KILN in the WORLD**  
WAS ERRECTED BY  
**THE STANDARD DRY KILN CO., Louisville, Ky.**  
For the KENTUCKY UNION LUMBER CO., Clay City, Ky.  
It consists of 20 Rooms, 18-85x17x9 and 7-125x17x9 feet.  
Send for CATALOGUE containing numerous testimonial letters which demonstrate that "THE STANDARD" is the MOST PRACTICAL AND EFFICIENT "BLOWER KILN" made.  
Low Prices. Easy Terms. Satisfaction Guaranteed. Payment contingent on fulfillment of Guarantees. Estimates and Plans sent on application.  
**The Standard Dry Kiln Co.**  
PATENTERS AND SOLE MANUFACTURERS,  
1224 to 1230 West Main Street, LOUISVILLE, KY.



Supplies for  
FLOUR MILLS, GRAIN ELEVATORS  
COTTON SEED AND LINSEED OIL MILLS  
SUGAR REFINERIES, STARCH AND RICE MILLS ETC.  
CEMENTWORKS.

**CALDWELL & SONS**  
CONVEYORS  
131 & 133 WEST WASHINGTON ST. CHICAGO ILL.



**ROBINSON & ORR,** Steel Rails and Fastenings. 419 Wood St., PITTSBURGH, PA.  
WE BUY OLD IRON AND STEEL RAILS (for reworking or relaying) WHITE IRON  
BUFFALO SCALE CO., Buffalo, N. Y. HEADQUARTERS RAILROAD TRACK SCALES and all other Scales.  
397786



# THE DEANE STEAM PUMP CO.

Steam and Power Pumps  
For all Purposes.

HOLYOKE, MASS.

Morton, Reed & Co.  
AGENTS, BALTIMORE, MD.

NEW YORK. BOSTON. CHICAGO.

Water Works Engines  
A SPECIALTY.

PHILADELPHIA. ST. LOUIS.

Birmingham Office and Warerooms:  
No. 6 SOUTH 20th STREET.

Send for Illustrated Catalogue.

## WORTHINGTON STEAM PUMPS

SOUTHERN SELLING AGENTS:

THOS. C. BASSHAW & CO., Baltimore, Md.  
KENTUCKY MACHINERY CO., Louisville, Ky.  
PERRY MACHINE WORKS, Nashville, Tenn.  
LIVERMORE FDRY. & MACH. CO., Memphis, Tenn.  
FORSBERG & MURRAY, Washington, D. C.

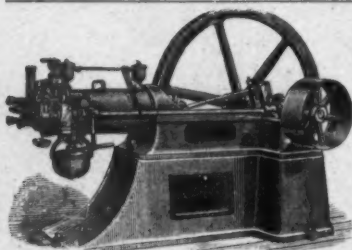
SEND FOR ILLUSTRATED CATALOGUE

HENRY R. WORTHINGTON  
NEW YORK.

SOUTHERN SELLING AGENTS:

SMITH & COURTNEY, Richmond, Va.  
MECKLENBURG IRON WORKS, Charlotte, N. C.  
E. V. WHITE & CO., Norfolk, Va.  
M. SCHWARTZ & CO., New Orleans, La.  
F. W. HEITMANN & CO., Houston, Texas.

Boston Philadelphia Chicago St. Louis St. Paul San Francisco



Over 18,000 in use. **OTTO GAS ENGINE**

20 to 70 per ct. less Gas  
Consumption than  
ANY OTHER ENGINE.

Working Without Boiler, Steam, Coal, Ashes or Attendance.

Started Instantly by a Match It gives full power immediately. When Stopped all Expense Ceases.  
GUARANTEED TO CONSUME 25 TO 75 PER CENT. LESS GAS THAN ANY OTHER GAS ENGINE DOING THE SAME WORK.

No explosions, no fires nor cinders, no gauges, no pumps, no engineer or other attendant while running. Recommended by Insurance companies. UN-  
SURPASSED IN EVERY RESPECT for hoisting in warehouses, printing, ventilating, running small shops, &c. Sizes, 1 to 25 Horse-Power.

Branch Office, 151 Mon-  
roe St., Chicago, Ill. **OTTO GAS ENGINE WORKS, Schleicher, Schumm & Co. 33D AND WALNUT STS. PHILADELPHIA, PA.**

GEO. DRAPER & SONS, of Hopedale, Mass.

SELL THE

Highest Grade of Twisters, Warpors and Spoolers.

SOUTHERN AS WELL AS NORTHERN MILLS REQUIRE THE HIGHEST GRADE.

THEY ARE CONSTANTLY INTRODUCING IMPROVEMENTS IN ALL LINES OF COTTON MACHINERY.

Shafting, Hangers and Pulleys { For Mills and Factories  
of every description.

Flour and Corn Mill Outfits Complete. { Highest Product  
Guaranteed.

Over 1,000 of our Roller Mills in use.  
Over 8,000 of our Portable Grist Mills in use.

We offer a Complete Mill and Sheller for \$115.00

Adapted to any kind of power. A boy can run and keep it in order.

**NORDYKE & MARMON COMPANY, INDIANAPOLIS, IND.**



Correspondence Solicited.

Write for pamphlet  
"Mills and Milling."



For SUCTION, WATER, STEAM, GAS, AIR, ACIDS and  
for every purpose to which a hose can be applied.

RESISTANCE to Great Pressure;  
Unobstructed Flow of Water; In-  
creased Flexibility and Perfect  
Protection are some of its Advan-  
tages.

The making, vending or use of any SERVICEABLE ARMORED WIRE-BOUND  
HOSE not of our manufacture is an infringement on one or more of our patents, and any violation  
will meet with instant prosecution. Brass plates mark each coil and admonish infringers, whether  
evil-minded or ignorant.

**WATERBURY RUBBER COMPANY,**

Sole Manufacturers and Proprietors,

49 WARREN STREET, NEW YORK.

**THE EMPLOYERS' LIABILITY ASSURANCE CORPORATION, Limited,  
OF LONDON, ENGLAND.**



Trustees for the United States:

OLIVER W. PEABODY, Esq.,  
KIDDER, PEABODY & Co., Boston.  
CHAUNCEY M. DEPEW, Esq.,  
Pres. N. Y. Cen. and H. R. R. Co., New York.  
SAMUEL SLOAN, Esq.,  
Pres. Del. Lacka. and West R. R. Co., New York.  
WM. A. FRENCH, Esq., Pres. Mass. National Bank.  
ABRAM FRENCH Co., Boston.  
HON. JOHN LOWELL, Boston.

Deposited in United States,

\$700,000.00.

Policies issued giving full protection to Em-  
ployers against loss by Claims from Employees on  
account of Accident. Rates Proportioned to  
Risks of Occupation. One Premium the only  
Payment during year. No Contingent or other  
Liability on part of Employer.

Employers with Pay Rolls of \$103,000,000  
already covered in United States. No Employer  
should be without this Protection. Cases Inves-  
tigated by Competent Inspectors and considered  
by Eminent Counsel. If liability shown, Claims  
settled without litigation.

ENDICOTT & MACOMBER, Managers for the United States, 71 KILBY STREET, BOSTON.

AGENTS—SAMUEL APPLETON, 25 Central St., Boston; KIRBY & DWIGHT, 51 Cedar St., New York; MIDDLE DEPARTMENT, TATTNALL PAULDING, Mgr., 416 and 420 Walnut St., Philadelphia;  
G. W. S. HALL, 413 Second St., Baltimore, Md.; GEO. A. GILBERT, 226-228 LaSalle St., Chicago; F. D. HIRSHBERG & BRO., 120 N. Third St., St. Louis;  
HUFFMAN & ALLISON, State Agents for Alabama and Tennessee, Birmingham, Ala.

Send for New Catalogue **SUPERIOR WOOD-WORKING MACHINERY** to CONNELL & DENGLE, Rochester, N. Y.





# MANUFACTURERS' RECORD

A Southern Industrial, Railroad and Financial Newspaper.

VOL. XVIII. No. 1.  
WEEKLY.

BALTIMORE, AUGUST 9, 1890.

\$4.00 A YEAR.  
SINGLE COPIES, 10 CENTS.

## Manufacturers' Record.

PUBLISHED EVERY SATURDAY BY THE  
MANUFACTURERS' RECORD CO.

President, Secretary and Treasurer,  
RICHARD H. EDMONDS, WM. H. EDMONDS.

RICHARD H. EDMONDS, EDITOR.  
WM. H. EDMONDS, BUSINESS MANAGER.

THOMAS P. GRADY, Southern Staff Correspondent.

COR. EXCHANGE PLACE AND COMMERCE STREET,  
BALTIMORE.

SUBSCRIPTION, . . . . \$4.00 a Year.  
To Foreign Countries, . . . 6.50 a Year.

BALTIMORE, AUGUST 9, 1890.

### British Interest and Confidence in Southern Development.

The Iron and Steel Institute of England is one of the largest and most influential and conservative organizations in the world. It is the representative body of the iron and steel interests of Great Britain. The following letter from its secretary must, therefore, be accepted as an indication of the growing interest and confidence abroad in the industrial development of the South:

THE IRON AND STEEL INSTITUTE,  
2 VICTORIA MANSIONS, WESTMINSTER S.W.,  
LONDON, July 22, 1890.

Editor Manufacturers' Record:

I have had the pleasure of bringing under the notice of gentlemen interested in the iron industry of this country quite a number of matters that have recently appeared in your paper, of which I am bound to say I entertain a very high appreciation. The progress that has been made in the Southern States during the last two or three years has been perfectly marvelous, and there can be no better exposition of the details of that prominent progress than that which is given from time to time in your excellent journal.

J. S. JEANS, Secretary.

THE supply of Swedish iron, known as "spiegeleisen," will always be a necessary import with American iron consumers, as it cannot be made in this country, owing to the insufficient supply of manganese that enters into its composition.—Boston Advertiser.

The Advertiser is mistaken. The South can supply all the manganese needed in this country. Manganese discoveries in the South of recent date have astonished the best experts by the magnitude of this much-needed article.

397786

### An Official Forecast of the South's Supremacy in Iron Making.

The official endorsement of the United States Government has been given to statements as to the cost of iron making in the South as compared with the North and West, that are as strong as any the MANUFACTURERS' RECORD has ever made. For a year or more Hon. Carroll D. Wright, United States commissioner of labor, whose statistical work has for years always commanded the entire confidence of the country, has been making a careful study of the cost of iron making in this country. Elsewhere in this issue we give a few striking facts from his preliminary report just issued. The figures of cost of iron and steel making in 115 establishments are published. The lowest cost of any Southern furnace running for a full year was \$8.55 per ton of iron produced. This furnace evidently uses an inferior coke, or else the ores are hard to smelt, as the average amount of coke consumed was 1.4 tons per ton of iron, while the Pennsylvania furnace which made the best record used 1.17 ton of coke to a ton of iron, and other Pennsylvania furnaces used still less. Fortunately this is a trouble that is being remedied, as Southern furnaces are steadily decreasing the amount of coke to the ton of iron. Even, however, as the matter stands, the lowest cost of iron in the North was \$12.42 a ton, or nearly \$4 a ton more than the lowest in the South. Reports are given of twenty-six Southern furnaces, and the highest cost of iron made by any of them was \$12.91, in a small stack having a daily average output of only 38 tons, which uses ore averaging only 42.5 per cent. metallic iron. But even under such unfavorable conditions the highest cost in the South was only 57 cents a ton more than the lowest cost in the North, and that in a modern 100-ton furnace using ore that averaged 61 per cent. metallic iron, and with extremely cheap coke on account of proximity to the Connellsville coke region. As in

England so in the North the cost of iron making must of necessity increase, while in the South it will inevitably decrease. With the opening up of new Southern regions, affording the highest grade of ore in close proximity to the best coking coals, it will be possible to make iron at a very much lower figure even than the \$8.55 per ton, the lowest figure reported for the South in these statistics.

### What the General Use of Cotton Bagging Means.

There are many indications that jute will never again be the chief wrapper for cotton bales, and it may be that cotton will within a few years be the only covering employed in the United States. Should this prove to be the fact, it will add another to the many illustrations of greed overreaching itself. The jute trust was destroyed by the sturdy action last year of the Farmers' Alliance. The price for jute bagging has fallen to 8 cents a yard, but that rate is no temptation to the planters. They prefer to use cotton at 12½ cents a yard. In this they display good judgment and correct business principles. If the entire crop this season, the lowest estimate of which is 7,000,000 bales, should all be wrapped in cotton bagging, 35,000,000 yards of it would be required, equivalent to 27,300,000 pounds of the fabric, which would make a new market for (in round numbers) 55,000 bales of 500 pounds each. This increased consumption would, it is believed, add to the market price of the staple at least half a cent a pound; consequently, every bale of 500 pounds would be worth \$2.50 more than but for the general adoption of this new bagging, while the saving by the use of jute would be but 23 cents per bale.

Of course this result will not be attained this year or next, nor does the Alliance expect it, but it is working on that line and is determined to succeed. When cotton-mill owners become convinced that this organization means business, and that it will persevere until its ends are at-

tained, there will be enough of them ready and eager to make all the standard cotton bagging required to clothe every season's crop.

### Steel Railroad Ties.

Standard steel metal ties were laid last autumn on a section of the Chicago & Western Indiana Railroad. Since October twenty-three thousand trains have run over them without any apparent effect upon them. Experts pronounce them as solid now as when first put down. Last week a section three-quarters of a mile long was laid with these ties on the Delaware & Hudson Railroad at Ballston Spa, New York. This is the oldest railroad bed in the United States, and many residents of the vicinity remember distinctly when cars drawn by horses ran upon strap rails over this same bed, and the introduction of those rails was considered a great advance in traveling facilities. On a parallel track the same company has just put in new Georgia pine ties, that a thorough test may be made of the relative merits of the two. This point was chosen because of a sharp curve that will give a severe trial to both tracks. The steel ties weigh ninety pounds and fifteen are used to each rail.

It is claimed by the company which is introducing this system of railroad track building that it makes rails-reading impossible. The company's engineer says:

The steel ties are so bolted and clamped to the rails that the whole becomes one immovable structure. Wooden ties must give way to metal, if for no other reason than that it is almost an impossibility to secure first-class wooden ties any longer; the demand exceeds the supply. And, besides, metal ties will last four or six times as long as the others, and in the end will be a great saving in the maintenance of way.

The replacing of wood with steel ties will create a new and enormous demand for the products of Southern mines and furnaces.

There are now about 425,000,000 wooden ties in use, and it requires about 100,000,000 ties per year to renew the average yearly wear-out and equip new tracks. Statistics

show that what were called a few years ago the great timber belts of the United States and Canada are being denuded of their forests at a frightful rate of speed, and to-day necessity compels the substitution of metal for wood. Owing to the great consumption and the growing scarcity of timber, wooden ties are now accepted and used that twenty or even ten years ago would have been considered unfit for any decent road; and, worse than all, the ties are allowed to remain in the track until they are so rotten that no spike will hold in them.

As recently as within five years the North was filled with doubters respecting the South's industrial advancement. The majority heard with polite indifference or with a disdain they scarcely cared to conceal of the developments in progress. Occasionally some journal would mention briefly the building of an iron furnace or the starting of a car shop, but such notices were exceptional, while sneers at "boom towns," and what were intended to be funny thrusts at the South's presumption in supposing it could ever be the seat of varied manufacturing industries, were unpleasantly numerous and frequent. All this has changed. Millions of money have been transferred from the North to the South. Thousands of families have made their homes there. Although the heat of summer has come, Southern hotel registers record daily arrivals from the North. The press, always awake to popular movements, has changed also, and now gives Southern industrial news items because readers are interested in them. The question is no longer, "Watchman, tell us of the night, what its signs of promise are," for the dullest are beginning to see, shining above the Southern horizon, "the morning star" of its developing prosperity. A glorious change this—the harbinger of a brighter and better period for the land we all love.

AN English capitalist, who recently made a careful investigation of the South with a view to large investments, has written to the Liverpool Journal of Commerce a very enthusiastic letter regarding the wonderful progress of the South, in which he says:

All this is paving the way for a boom over the South which will, I venture to predict, eclipse anything in the history of this enterprising nation. This opinion is the result of very careful study and extensive intercourse with both Northerners and Southerners.

COL. J. T. JAMESON, of Chattanooga, Tenn., in an interview with the Evening News of that city, based on a recent extensive trip through the North and West, says that "wherever he went the people were preparing for Southern investment, and the South will have such a boom this winter as was never known in any country before in the world."

## COST OF MAKING PIG IRON.

**Overwhelming Arguments in Support of the South as a Region for Making Cheap Iron Set Forth in Commissioner Wright's Report.**

[Written for the MANUFACTURERS' RECORD.]

When the Department of Labor was established by Act of Congress in 1888 the commissioner of labor was specially charged with the duty of ascertaining at the earliest possible date, and whenever changes should make it essential, the cost of producing in the United States and leading countries of the world articles at the time dutiable in this country. The scope of the investigations thus provided for was very broad, the commissioner of labor being instructed to base his inquiries upon definitely specified units of production, and to show in his results the different elements of cost, including the wages paid in each industry per day, week, month or year, the profits of manufacturers, etc. Immediately upon assuming the position of commissioner of labor, Hon. Carroll D. Wright formulated his plans for this elaborate work of investigation, and the agents and experts of his office have been at work since December, 1888, gathering the required material. In undertaking this work Mr. Wright selected as a basis the more important industries, upon which the minor industries largely depend. The industries which Mr. Wright chose for this purpose were iron and steel, cotton and wool, glass, linen, silk and earthenware. A vast amount of material has been gathered by the department relative to these subjects, and although the work is still far from completion, the urgent demand for information upon subjects now under discussion in the consideration of tariff legislation, has necessitated the issuance of a preliminary report by Mr. Wright upon the cost of producing pig iron, steel ingots, steel rails, coal, coke, iron ore and limestone.

Like all of the statistical handiwork of the present commissioner of labor, the report that has just been presented to Congress is marked by its general accuracy and its intelligent grasp of the subjects under consideration. Naturally the work is one of great difficulty, as it is anything but an easy matter to induce a manufacturer to open his books to a government official and reveal the uttermost secrets of the costs of his labor and materials and the profits upon his products. It was only in this manner, however, that the desired results could be obtained, and fortunately Mr. Wright was able to find a sufficient number of manufacturers who were willing to give the desired information to make his work at once successful and valuable, and although their identity is carefully concealed, the country is under lasting obligation to these manufacturers, who have generously disclosed such valuable information for the public benefit. All of the figures that are embodied in the report were taken directly from the books and pay-rolls of the different establishments, and their accuracy cannot, therefore, be questioned.

In his treatment of the cost of making pig iron, Mr. Wright has selected for his preliminary report the figures of 115 different establishments, each of which is desig-

nated by a number. There is scarcely a clew to the identity of any of the concerns, and there is no indication of their location beyond a broad grouping of the works in two grand divisions—Northern and Southern. The distribution of the establishments is as follows: Northern district—Illinois, 3; Indiana, 1; Maryland, 1; Michigan, 2; Missouri, 1; New York, 3; Ohio, 19; Pennsylvania, 35; West Virginia, 4; Wisconsin, 1. Southern district—Alabama, 13; Georgia, 1; Tennessee, 6; Virginia, 6. The foreign establishments are: Belgium, 6, France, 1; Germany, 4; Great Britain, 8.

The information that is given by Mr. Wright is presented without comment or analysis. It is simply submitted in bulk, and it is left for the reader to digest it for himself or else await the completion of the final report. To analyze the array of figures would require the compass of a volume, and the most that can be done within the limits of this article is to draw from the figures a few details that bear most directly upon the iron industry of the South. After all the discussion and argument that has hinged upon the cost of making iron in the South, and after the often harsh criticism that has been called forth by figures presented to show how cheaply pig iron could be made in the South, it is certainly refreshing to read in Mr. Wright's carefully compiled tables a confirmation of some of the "Southern pig iron fables." The figures not only show the measure of the advantage that the South enjoys, but they also reveal in very specific terms the exact character of that advantage.

Let us first compare the total cost per ton, run of furnace, North and South, and for this the "deadly parallel column" will serve:

AGGREGATE OF ALL COSTS PER TON OF 2,240 LBS.

North.		South.	
No.	Cost.	No.	Cost.
1.....	\$13.207	1.....	\$ 9.634
2.....	12.830	2.....	10.207
3.....	13.236	3.....	11.741
4.....	14.611	4.....	11.310
5.....	14.836	5.....	8.583
6.....	13.688	6.....	11.779
7.....	13.171	7.....	9.881
8.....	15.499	8.....	10.867
9.....	15.452	9.....	12.813
10.....	13.803	10.....	9.441
11.....	14.434	11.....	9.161
12.....	15.776	12.....	10.610
13.....	13.630	13.....	10.822
14.....	14.594	14.....	11.146
15.....	14.532	15.....	9.829
16.....	14.079	16.....	9.933
17.....	12.781	17.....	10.160
18.....	13.569	18.....	12.071
19.....	14.016	19.....	10.025
20.....	13.672	20.....	12.403
21.....	12.997	21.....	9.623
22.....	14.739	22.....	12.913
23.....	13.007	23.....	10.482
24.....	14.858	24.....	11.592
25.....	14.201	25.....	11.825

Of these furnaces, Nos. 8, 9, 13, 14, 19 and 20 of the Northern group used mixed anthracite coal and coke; Nos. 2, 4 and 17 used bituminous coal and coke, while No. 1 ran on all bituminous coal. No. 16 of the Southern group used bituminous coal and coke. All of the other furnaces used all coke fuel.

The elaborate details which the tables give enable one to trace with ease the elements of advantage or disadvantage in the cost in each case. In the elements of cost that go to make up the totals given above, materials figure in each case as shown by the following table:

COST OF MATERIALS PER TON OF PRODUCT, NORTH.

No.	Ore.	Scrap, etc.	Lime-stone.	Coke.	Total.
1.....	\$5.578	\$1.083	\$0.566	\$3.97	\$11.125
2.....	5.675	1.093	.451	3.397	11.147
3.....	8.044	.199	.278	3.998	12.519
4.....	6.937	.480	.410	4.679	12.506
5.....	7.510	.410	.431	3.320	11.261
6.....	7.160	1.410	.327	2.103	11.502
7.....	7.406	.531	.563	4.710	13.607
8.....	7.435	.1282	.484	4.915	13.002
9.....	6.385	1.007	.386	3.771	11.547
10.....	5.745	1.449	.439	4.290	13.000
11.....	4.265	1.580	.457	4.582	10.863
12.....	6.195	.618	.861	4.284	11.958
13.....	8.808	.000	.739	4.700	14.247
14.....	6.344	1.371	1.214	2.425	11.354
15.....	6.681	1.528	1.286	2.185	11.680
16.....	6.419	1.414	.984	1.986	10.783
17.....	5.899	.685	.837	4.229	11.650
18.....	4.995	.573	1.225	4.435	11.139
19.....	6.368	.798	.404	3.054	10.624
20.....	7.925	.593	.561	3.644	12.723
21.....	5.790	.193	.635	3.824	10.412
22.....	8.769	.000	.256	3.087	12.112
23.....	6.239	.347	.336	4.975	11.917

An analysis of the cost totals for the 25

Southern establishments gives the cost of materials as below:

COST OF MATERIALS PER TON OF PRODUCT, SOUTH.

No.	Ore.	Scrap, etc.	Lime-stone.	Coke.	Total.
1.....	\$1.561	\$0.007	\$0.408	\$5.197	\$ 7.173
2.....	2.165	.000	.477	4.960	7.502
3.....	3.315	.000	.548	5.491	9.354
4.....	3.340	.000	.565	4.600	8.505
5.....	1.652	.000	.789	3.572	6.013
6.....	2.662	.101	.616	4.701	8.110
7.....	2.587	.099	.397	4.471	7.554
8.....	3.021	.000	.315	5.068	8.404
9.....	4.211	.000	.752	5.784	10.747
10.....	2.686	.000	.293	4.237	7.216
11.....	1.950	.000	.334	4.243	6.527
12.....	1.983	.010	.391	5.033	7.417
13.....	4.266	.000	.229	4.382	8.877
14.....	3.643	.131	.560	4.991	9.325
15.....	3.959	.000	.714	3.256	7.929
16.....	3.946	.000	.235	4.157	8.340
17.....	3.739	.134	.520	4.263	8.656
18.....	4.151	.000	.493	4.931	9.575
19.....	4.977	.000	.810	3.878	9.665
20.....	4.935	.000	.810	4.021	9.766
21.....	3.477	.000	.483	4.264	8.164
22.....	4.215	.000	.961	5.397	10.573
23.....	4.694	.000	.704	3.016	8.414
24.....	5.066	.000	.758	3.986	9.810
25.....	4.093	.000	.771	4.498	9.362

The point that is brought forward most prominently by these two tables is the greater relative cheapness of the ores used by the Southern furnaces. The smallest cost per ton of iron for ore to the Northern furnaces is seen to be \$4.265, which is the figure given for No. 13, while the highest cost for ore in this group is \$8.769 in the case of No. 24. As compared with these extremes, the Southern furnaces show \$1.561 as the lowest ore cost per ton of product, and \$5.066 as the highest—Nos. 1 and 24 respectively. The other elements of cost that go to make up the aggregate are not of sufficient significance to necessitate their consideration at any length, although they are all carefully set forth in Mr. Wright's report. The labor cost per ton does not vary materially between the North and South, nor is there any marked difference in the allowances made for superintendence and clerical work in the two groups under consideration, although these items are slightly larger in the case of the Northern plants. The average payments for taxes are also very near alike, and the same may be said of the allowance for supplies and repairs. None of these items, therefore, call for further attention.

There is much of both interest and profit in a closer analysis and study of a few of the more notable of the cases of low cost that are presented in the tables that have been given. Thanks to Mr. Wright's minute details there is nothing lacking save the names of the different establishments. Let us first take the cheapest iron made in the South, and examine the conditions under which it was produced. The furnace designated as No. 5 shows the lowest cost, namely \$8.553 per ton. Although no clew to its identity is given this is evidently one of the finely equipped modern stacks in the Alabama district. It is a single stack 75 feet high by 17 feet bosh, with four stoves and two blowing engines. The period of operations upon which the figures of cost were calculated was a run of 365 days from January 1, 1889, to December 31, 1889. The aggregate output of the furnace during that time was 41,272 gross tons of pig iron, an average of 113 tons per day. The fuel used was coke, made at the furnace from coal mined one mile distant, the fuel costing at the furnace \$2.545 per ton. The ore was a mixture of about two-thirds hard red fossiliferous, containing 52.200 per cent. metallic iron, with one-third brown hematite, running 48.930 per cent. metallic iron. These ores were mined twenty miles distant from the furnace, and their average cost laid down at the furnace was \$0.841 per ton, including freight charges of 25 cents per ton. In fact, the ore seems to have cost but a trifle more than the limestone, which paid a freight charge of 35 cents for a 30-mile haul and was figured to cost at the furnace \$0.755 per ton. A recapitulation of all the elements of cost in the production of iron by this furnace gives the following result:

Ore, 1,965 tons, at \$0.841 per ton..... \$1.652  
Limestone, 1,044 tons, at \$0.755 per ton..... .789  
Coke, 1,403 tons, at \$2.545 per ton..... 3.572

Total cost of all materials..... \$6.013

Labor..... \$1.663

Officials and clerks..... .430

Supplies and repairs..... .400

Taxes..... .057

Total of all costs per ton..... \$8.553

After such a statement of extreme low cost in the South, it is but fair that a similar showing should be made of the elements in the highest cost of production by a Southern plant. The highest cost given is \$12.913 per ton for the furnace designated as No. 22. This is a much smaller stack, measuring 61 feet in height by 12½ feet bosh, and having an average daily output of about 38 gross tons. This furnace ran on a lean brown hematite—about 42 500 per cent. metallic iron—mined within a mile of the furnace. Coke was used exclusively, paying a freight charge of 85 cents per ton for a haul of 120 miles. The elements in the cost of this iron may be stated thus:

Ore, 2 379 tons, at \$1.772 per ton..... \$4 215  
Limestone, 1 420 tons, at \$0.745 per ton..... 961  
Coke, 1 421 tons, at \$3.797 per ton..... 5 397

Total cost of all materials..... \$10 573  
Labor..... \$1 484  
Officials and clerks..... 172  
Supplies and repairs..... 614  
Taxes..... 230

Total of all costs per ton..... \$12 913

It is not necessary to present further figures for the Southern furnaces, those that have already been given indicating their general character and the advantages that lie upon the side of the iron makers in the Southern States. But the contrast between the conditions North and South will not be complete without an analysis of the figures of a representative Northern coke furnace. Let us take No. 11 of the Northern group, whose total of \$12 424 is the lowest cost in that division. This furnace is only 63 feet high by 14 feet bosh, but it is a good producer, as is shown by its output of 32,660 tons in a run of 357 days, between June 1, 1888, and May 31, 1889, an average of 91 tons per day. The ores used were specular, magnetic and hematite of about 61 per cent. metallic iron, evidently from the Lake Superior region, as freight is figured at \$3 per ton for transportation by rail and lake a distance of 1,000 miles. Limestone was quarried 20 miles distant, and paid 40 cents freight, while the coke came 125 miles and paid \$1.35 per ton. The elements of cost in this iron may be summarized as follows:

Ore, 1 337 tons, at \$4.645 per ton..... \$5 745  
Cinder, scrap, etc., 0 388 tons, at \$4.524 per ton..... 1 767  
Limestone, 0 475 tons, at \$0.814 per ton..... 386  
Coke, 1 178 tons, at \$2.746 per ton..... 3 234

Total cost of all materials..... \$10 372  
Labor..... \$1 404  
Officials and clerks..... 159  
Supplies and repairs..... 464  
Taxes..... 205

Total of all costs per ton..... \$12 424

The remoteness of the source of ore is a conspicuous feature of the showing made by this furnace. To be sure, the ore is rich and is therefore able to stand a long transportation, but it is nevertheless more expensive than the leaner ores of the South upon which there is short transportation. The Northern furnace enjoys the advantage of cheaper coke, although paying higher freights by more than 50 per cent. Here lies one of the greatest obstacles with which Pennsylvania iron makers have to contend, namely, high rail freights. It is not necessary to look beyond the tables given above for conclusive evidence of this. Here is a Southern furnace that pays 85 cents per ton for an 120-mile haul on its coke, while the Northern (presumably Pennsylvania) furnace pays \$1.35 for a haul of 125 miles.

There are numberless other deductions that can be drawn from the great mass of figures which Mr. Wright has presented in his preliminary report, and a goodly volume might be filled without difficulty in an endeavor to make an exhaustive analysis of the statistics. Despite the tedious work that is necessary to assemble the various elements of cost that are given with such great care, this preliminary report is full of interest to any iron maker, and if Mr. Wright's completed reports shall possess equal merit and interest, they will be valuable indeed.

## AN EXPERT'S OPINION.

Prof. Shaler, of Harvard University,  
Grows Enthusiastic Over the  
South's Advantages, Re-  
sources and Future.

One of the most noted authorities in America, whose reputation is probably almost as great in English scientific circles as in those of his own country, is Prof. N. S. Shaler, the distinguished geologist of Harvard University. Prof. Shaler, following closely in the line of what the MANUFACTURERS' RECORD has for years sought to impress upon the public, discusses in the last number of The Arena, "The Economic Future of the South." After referring to the repressing influence of slavery upon the industrial development of the South and the disasters of the civil war and the reconstruction period, he says:

But the civilizing instincts of the population (of the South) swiftly brought order out of a chaos which with any other race would have endured for generations. Then began the true reconstruction which is now in such a marvellous way rebuilding from the shattered fragments of Southern society, great States of the modern type. Northern capital has invaded the South more swiftly and more effectively than the Northern armies managed to do, and on the old battle-fields, victors and vanquished have forgotten their ancient strife in the friendly converse of men who are winning wealth each for the other.

As the complete union of the two sections manifestly depends on the extension of commercial relations between its people, it is worth while to review the resources of the South which are likely to contribute to this end. We may thereby gain an insight into the probable future of the business growth, which alone can soon firmly unite the long discordant parts of our country. In gauging the resources of any region, the first question before us is to determine the quality of its population. There is an ancient notion that the white population of the South consisted in part of a soft handed gentry incapable of labor, and in part of peasants, despised by their superiors in social station, and without moral or physical stamina. All the federal soldiers who came into close contact with the Southern armies were rudely disabused of this prejudice. They found themselves face to face with men of their own kind, laborious, alacrious and enduring after the American manner. War is a crucial test of these human qualities; judged by this fire assay we know the Southerner to be of sterling material, in no way below the lofty standard of his race.

In the new dispensation the poor white works well, surprisingly well, when we consider how changed is his present situation as contrasted with the past. Give him a generation to train his limbs to the unaccustomed chase of the dollar and he will find the pace of his race.

Not the least of the good promise of the Southern white population is found in the admirable quality of their ancestors. There is probably at the present time no equally numerous part of the English race so unaffected by foreign blood.

After touching upon the topography of the South, referring to the great Piedmont and mountain region of this section, which, he says, occupies about two hundred thousand square miles, having an elevation of one thousand feet above the sea,

while one-half of it averages over two thousand feet, Prof. Shaler says:

The result of this elevation is that almost one-half of the area of the Southern States east of the Mississippi river has a much colder climate than its latitude indicates. Measured by the temperature conditions of the seashore line, this district may be said to have climatical relations analogous to those of the coast between Washington and Boston. *Its conditions are in this respect, perhaps, the best of any district now occupied by our race. (Italics ours.)* In good part the marshes which exist in the South are the result of the large and seasonably well-distributed rainfall. This field shares this singular advantage with the rest of the country which occupies the portion of North America which lies east of the Mississippi. This part of the continent is the best watered of all the lands occupied by the race, and the southern section in particular, owing to the warmth of the warm waters of the Gulf of Mexico, is almost exempt from destructive droughts. This well-adjusted supply of rain gives to the Southern rivers a tolerable constancy of flow, and thus fits them for water-powers in assurance exceeded only by the New England district. The whole of the elevated region of the Appalachians abounds in noble streams which may be turned to this use. To this gift of gracious skies we may also attribute the superb forests of this region. These woods contain a greater variety of broad-leaved deciduous trees than are found in any other sub-tropical forests of the world, and the conifers are only exceeded in growth by the giant forests of the Pacific coast. The forests of the Northern States, which never covered anything like the area of those in the Southern districts, have been stripped of their valuable timber, while a large part of the area south of the Potomac and the Ohio have never been scourged by the axe, and are saved from fire by the relatively great rainfall. In this region lie the effective timber resources of the continent; used with reasonable care, they will by their swift growth afford a permanent supply for all the needs of its population.

Of the possibilities of the soil of the South Prof. Shaler writes very strongly; but it is the vast mineral wealth of this land and the influence that it must inevitably have upon the whole world that commands most of his attention. On this subject he says:

At present and for all the foreseeable future the most substantial economic work of our civilization depends mainly on the use of coal and iron. Although both of these substances in a way abound throughout the Northern Hemisphere, and iron ore of fine quality is found most widely distributed over the earth, they are rarely found in considerable quantities near together. The association of the two in the same field is important for several evident reasons. In the first place it requires from two to three tons of coal, or its equivalent in coke, to extract the metal from the ore and bring it into the state of pig iron. Then all the subsequent processes by which it is converted into the uses of the arts require yet more fuel. When the ore and coal are far apart it is a costly business to bring them together. Each hundred miles of distance between them commonly means an expense of from one to two dollars per ton in the cost of making the metallic iron. In the Southern States the quantity and the association of the materials for this industry are better than in any other country, except perhaps in China.

The iron ores of the South are not only extremely abundant, but occur in several widely separated fields. The Shenandoah district of Virginia and the neighboring valley of the Roanoke, Western North

Carolina, Eastern Kentucky and Tennessee, Northwestern Georgia and Northern Alabama, all districts belonging to the system of the Appalachians, abound in workable deposits of this mineral. Texas, Arkansas, Missouri, also contain valuable iron ores, but they lie remote from deposits of good coal. The peculiar advantage of the Appalachian district is found in the fact that the ores lie in the neighborhood of excellent coal beds, which in certain cases can be used as it comes from the mine, or may be made to serve the needs of the smelter after it is converted into coke. The average distance of the iron ores from the coal needed to reduce it to the metallic state does not probably exceed 100 miles. The ores of the Lake Superior district have to be transported from seven to ten times this distance to find an appropriate fuel. It is true that the average richness of the Lake Superior ores in metallic iron is probably nearly one-third greater than those found in the Southern States, and the former yield Bessemer iron, which, save in rare instances, cannot be produced from the Southern deposits.\* On the other hand, the Southern ores are generally won with considerable ease. Enough ore to make a ton of iron can at many points be mined and put in the furnace at a cost of between one and two dollars, while to bring the same amount of raw material from the earth about Lake Superior to the smelting point costs, at the present time, from nine to twelve dollars. Moreover, there is a method of making steel, known as the Basic process, which, for general purposes, is as good as the Bessemer system. This method is well proven, and, with the expiration of certain patents, which in few years will cease to be valid, will doubtless come into general use in the Southern States.

The peculiar ease with which the Southern irons are mined is in good part due to their geologic conditions. They are generally in the form of true beds which once were limestones, and have been converted by percolating waters containing iron in a dissolved form into iron ores; being beds of this origin, the deposits are more continuous than those of other nature, such as those about Lake Superior, where the ore occurs in much more irregular deposits. Moreover, the Southern country was not occupied by the glaciers of the last ice period; thus the soft oxidized ores were not worn away, as has generally been the case in the glacial fields, nor have the outcrops been hidden by the deep accumulations of drift materials which are so common in Northern districts. In part also their advantageous conditions are due to the fact that the Southern climate permits work to be carried on in open pits throughout the year, while such uncovered openings would not be workable for more than seven months of the year in more Northern climes.

At present the Southern iron furnishes ore at a certain disadvantage, owing to the fact that their market is limited to the United States, and they are generally remote from the great centers where this metal is most consumed. The rapid industrial growth of the region about them is likely in a very few years to give a local demand for all the metal they at present produce, but their product will within a decade find a way to a wider field than this continent. To see this feature of their future it is necessary to glance at the present conditions of the two great southern continents, Africa and South America.

Within a few years the industrial condition of these two great lands of the South is destined to undergo a great change. In both sections the construction of railways and the extension of other commercial enterprises have been com-

\*The South will soon be able to furnish Bessemer ores, as rich as those of Lake Superior, at a cost no greater than ordinary brown ores now command.—ED. MANUFACTURERS' RECORD.

menced, and their realms, so long beyond the limits of the active life of the world, are to be rapidly subjugated to civilization. They are, in a word, to enter on their iron age. The lack of any satisfactory iron-making fuel in these continents, as well as their social conditions, apparently make it impossible that they can produce their own supply of iron or coal. These materials will have to be brought from Europe or North America; they might perhaps be produced in China, but it will demand a social revolution to bring that people to compete with the Aryan civilization. Europe has not the means to supply this need; already the call for iron from these countries has carried the price of that metal to a point beyond what it commands in the markets of the United States. It seems clear that the Southern States of this Union will shortly be in a position to claim the place which its resources for iron production entitle them to hold, and that they will be looked to as the source of supply, both of iron and coal, for these awakening continents.

It now appears certain that within a short time a canal will be constructed through the American Isthmus, either at Darien or at Nicaragua, or perhaps at both points. When this task is accomplished the southern portion of the United States will lie next to the greatest marine highway of the world. It alone can afford the coal for the shipping which is to pass along this path, and this for the reason that the mines of the southern Appalachian district are three or four thousand miles nearer to the Caribbean waters than those of England.

The vast agricultural and mineral resources of South America will soon be demanded as sources of supply of the world's markets. The developments of this continent will demand a great amount of machinery and tools. The geographic and the geological conditions point to the South as the place whence these shall be supplied. So, too, the demands of Africa, as its population becomes modernized, will naturally be met by the earth resources of the Southern States. As these changes come about this region, with its store of coal and iron, its abundant water-powers, good soil and excellent climate, will not only command these markets, but will be in an excellent position to send its products of mine, factory and forest to the whole Pacific realm.

The great revolution of our civil war, by destroying slavery, opened a new realm to the enterprise of our people. Most fortunately, the earth resources of this realm provided the basis of an economic development which promises to solve the difficulties which could not be cleared away by arms or by legislation. This development bids fair to complete the modernizing process and to give a new life not only to the South and to our nation as a whole, but to have a vast influence on the industrial developments of other lands.

The Pilot, of Morristown, Tenn., says that "never in the history of Morristown have the prospects been so encouraging for that town and county as at present. The latest information we have to date is that at a very early day the Land, Timber, Iron & Marble Development Co., of this city, which owns 25,000 acres of fine timber and mineral lands within a short distance of Morristown, will begin the erection of several factories. This company now has a large force of men ready to begin early operations in the cutting and sawing of the timber upon its properties for the building of its factories. No more favorable location can be found in the whole East Tennessee valley for the erection of factories and machine shops than is afforded in our beautiful city."

OVER \$70,000 of lots are said to have been sold at private sale in Basic City, Va., a few days ago.

## THE BOSTON SOUTHERN BANK

### Strong Endorsement from High Sources for a Great Enterprise.

Southern Congressmen and Southern Bankers Pronounce the Organization of the American National "the Right Thing at the Right Time"—Business Intercourse the Basis of the Best and Strongest Union Between the North and South.

THE MANUFACTURERS' RECORD thoroughly believes in the doctrine of the late Hon. Wm. D. Kelley, that "the development of the South means the enrichment of the nation," and it also believes that the best and strongest union of the sections will be brought about by closer business intercourse. While politicians and political papers may rant and rave, the business people of the country want to develop the closest business relations between the North and the South.

Several years ago a Philadelphia banking house became heavily interested in the Norfolk & Western Railroad. As a direct result of this and of the vigorous efforts made by this bank and the railroad to attract attention to the country along the line of the road, over \$75,000,000 of Pennsylvania capital has been invested in Southwest Virginia since then. Every dollar of this money has a direct influence in making the people of Philadelphia deeply interested in everything that concerns the progress and prosperity of all Virginia. We believe that not simply \$75,000,000, but many times \$75,000,000 of New England's hoarded riches can within the next few years be turned into the South, bringing prosperity to thousands here, and yielding large profits to the investors. And every dollar thus invested will be a powerful argument against injurious legislation calculated to injure the South. The work has already commenced. For years the MANUFACTURERS' RECORD labored to turn the flow of capital Southward, and New England was the last stronghold to overcome. Philadelphia, New York and the great West followed our advice, but New England as a whole would not believe in the great future of this section. However, sentiment finally turned, and Mr. W. P. Rice took the lead. With commanding influence in New England and the West he was the man to do the work. The establishment of Fort Payne, Cardiff and Denison as industrial centers gave him a hold upon New England people in behalf of the South such as he had had in behalf of the West. And so, when he decided to establish a \$1,000,000 national bank in Boston to be devoted to cultivating the financial interests of the South and New England, and in connection therewith a bureau of information to aid in turning capital Southward, the MANUFACTURERS'

RECORD hailed it as one of the most important events of the day. We believe that this bank, like the one in Philadelphia, will prove of very great value to the South, and that it will materially help in turning into the South within one year more capital than Philadelphia has invested in this section in the last three or four years. Believing this, we sent a letter to Southern Congressmen asking their views upon the importance of such an enterprise. Without exception, so far as we have heard, they heartily commend it, and bid Mr. Rice god-speed in his work. These letters will prove of interest to our readers:

Cordial Endorsement from Southern Congressmen.

UNITED STATES SENATE,  
WASHINGTON, D. C., July 31, 1890.

Editor Manufacturers' Record:

There has never been such a time for safe, paying investments of capital as there is at present (and will be for a number of years to come) in the South. Commercial and business development in the next decade will far outstrip the last, and the profits on safely invested capital will be greater than in any portion of the country. If the proposed national bank to be organized in Boston with \$1,000,000 of capital as a channel through which Southern investments may be made is prudently and conservatively managed, it will return to the investors in its capital large profits and be the means of directing large amounts of money into Southern investments. If the tongues of pestiferous politicians and demagogues could be silenced the growing business and social intercourse between the two sections would soon blot out sectional lines and promote the prosperity of all sections as has never been known in the past. The South will welcome and protect every dollar of honest capital that comes within her borders for an honest purpose.

Yours, etc., M. L. BUTLER.

UNITED STATES SENATE,  
WASHINGTON, D. C., July 30, 1890.

Editor Manufacturers' Record:

I am satisfied that the most powerful and controlling agency that can be employed in the work of pacification and establishment of hearty co-operation on the basis of national confidence in giving full and fair play to American genius and enterprise is business intercourse founded on investment of capital in the industrial development of the South, which offers more certainty of profit than any field now open in the world. For these reasons I give my hearty welcome and recognition to such business men as Mr. W. P. Rice, and heartily approve the business enterprise he has inaugurated of the character I have defined.

JAMES L. PUGH,  
U. S. S. from Alabama.

HOUSE OF REPRESENTATIVES,  
WASHINGTON, D. C., July 30, 1890.

Editor Manufacturers' Record:

I have just learned that Mr. W. P. Rice, of Boston, has undertaken the organization of a bank with \$1,000,000 capital, with the special purpose of advancing Southern development with New England capital. Such a scheme meets my hearty approval. My own district has already been laid under heavy tribute to capitalists of Philadelphia, Boston and New York, and the extraordinary development of this section of Virginia, including Southwest Virginia, in the past few years has been beyond the most sanguine expectations of the most conservative men. What the South needs is capital; New England has it, and in exchange for her capital we offer the fairest fields for investment in coal, iron and timber properties in the whole country, the heartiest welcome and the most genial

climate. A bureau of Southern information in connection with the bank will prove an admirable adjunct to the scheme. I sincerely hope the promoters will realize the greatest results from so commendable an enterprise. I am, very truly yours,

H. S. G. TUCKER, M. C. 10th Va. Dist.

HOUSE OF REPRESENTATIVES,  
WASHINGTON, D. C., July 30, 1890.

Editor Manufacturers' Record:

I have considered the character and purpose of the enterprise about being set on foot by Mr. W. P. Rice and his associates, and desire to say that it meets my very earnest approval. As I understand it, it is proposed to establish in Boston a bank to be called the American National Bank, with a capital stock of \$1,000,000, which, besides doing a general banking business, will give especial attention to matters pertaining to the South, so that through it facilities may be readily extended for placing good Southern securities, and bringing to the attention of Northern capitalists Southern investments and properties. To do this more effectually, it is desired that Southern men from all portions of the South shall become directly interested in the enterprise by taking a limited part of the stock. Southern subscribers would also constitute a very valuable bureau through whom necessary information could be obtained regarding Southern properties. I have no doubt that the establishment of such an enterprise will be of very great benefit to the South, and cordially wish it success.

Respectfully,

T. C. CATCHINGS.

HOUSE OF REPRESENTATIVES,  
WASHINGTON, D. C., July 30, 1890.

Editor Manufacturers' Record:

In response to the request of your correspondent for a statement of the sentiment of the people in my part of the country—the Second Congressional District of Arkansas—towards the proposition to organize a bank in Boston of Northern and Southern capital, and to lead to more intimate business relations between the sections, I take great pleasure in saying that I think any movement of that kind is most welcome to our people. We want Northern men and Northern capital to come among us. We are sick of being looked upon and treated as an alien section. We want our people to mix. Having the best place to make money in, we can't go North, so we urge Northern men to come to us, knowing that everyone who helps himself will correspondingly help us. I think well of Mr. Rice's plan and hope it will be put through.

Very respectfully,

C. R. BRECKINRIDGE.

WASHINGTON, D. C., July 30, 1890.

Editor Manufacturers' Record:

The plan of establishing a million-dollar bank in Boston by Mr. W. P. Rice for the purpose of interesting New England capital in Southern properties meets with my hearty approval. It is what the South needs much more than a spirit of boycotting, and I hope to see from it the most beneficial results to my section of the country.

J. S. COTHRAN,

M. C. 3d Dist. S. C.

I cordially concur in the opinion of my friend, Judge Cothran.

WM. C. P. BRECKINRIDGE.

HOUSE OF REPRESENTATIVES,  
WASHINGTON, D. C., July 30, 1890.

Editor Manufacturers' Record:

In organizing the American National Bank at Boston for bringing together Southern opportunities for investment and New England capital, and thus aiding and accelerating Southern development, I believe Mr. W. P. Rice has taken possession of a good field at an opportune time. The aims and purposes of the enterprise, so far as they relate to the upbuilding of the South, meet with my earnest approval.

H. DUDLEY COLEMAN, 2d Dist. La.

HOUSE OF REPRESENTATIVES,  
WASHINGTON, D. C., July 30, 1890.  
*Editor Manufacturers' Record:*

There is nothing the South needs so much at this time as capital and immigration to start new manufacturing enterprises. Above all we want Northern capital and expert skill in applying the useful arts to become interested in establishing and operating new industries among us other than agriculture, so as to increase profitable employment for our people, and help efface sectional prejudice, both North and South.  
G. D. TILLMAN, M. C. 2d S. C. Dist.

HOUSE OF REPRESENTATIVES,  
WASHINGTON, D. C., July 30, 1890.  
*Editor Manufacturers' Record:*

I earnestly approve the enterprise inaugurated by Mr. W. P. Rice for the organization of a national bank at Boston which shall make a specialty of Southern business. One of Mr. Rice's most successful enterprises, the town of Fort Payne, being located in my district, I know something about his work, and I am convinced that this \$1,000,000 bank that he is organizing will be a powerful factor in bringing together Southern investments and New England capital, to the great advantage of both and to the advancement of the industrial and business interests of the South.  
WM. H. FORNEY, 7th Dist. of Ala.

HOUSE OF REPRESENTATIVES,  
WASHINGTON, D. C., August 1, 1890.  
*Editor Manufacturers' Record:*

I understand that an effort is now being made to establish a bank in Boston, with \$1,000,000 capital, for the purpose of interesting New England capital in the development of the resources of the South. This movement meets with my hearty approval. The district I represent is rich in iron, coal, salt, gypsum, zinc, marble, timber, water-power, etc., and only needs capital to aid in its development. Already considerable Northern capital has been invested there (Southwestern Virginia) with the best results to all concerned. Our people are not only anxious for such investments, but will welcome all who desire to make their homes with us and to aid us in the development of our section of the country.

Very respectfully yours,  
JOHN A. BUCHANAN, 9th Dist. Va.

HOUSE OF REPRESENTATIVES,  
WASHINGTON, D. C., August 1, 1890.  
*Editor Manufacturers' Record:*

I feel that in the development of the South we need capital from abroad to supplement our local resources in every section. We are making a surplus which increases every year, but the possibilities for the profitable employment of additional money in our enterprises are greater than our annual net earnings. I, therefore, unhesitatingly advise that the Southern people give a cordial support to every legitimate and business-like enterprise which has for its object the investment of moneys from the great centers of capital in our promising fields of industry. We offer the openings for prosperous undertakings, we show our faith by placing our own capital in them, and we then welcome additional resources to enlarge and to share in our profits. There are innumerable opportunities of this kind in all parts of the South, which only need to be presented to the notice and scrutiny of business men in the North in order to be a source of mutual advantage to those of both sections who embrace them. Accordingly, the greatest need at present is the adoption of some method by which there can be presented at the North, in a systematic and business manner, the enterprises which promise solid remuneration to investors, and by which they may be able to have some agency, upon which they can rely, for a careful and thorough investigation into the merits of every project presented. I think the plan of Mr. W. P. Rice, a banker, of Boston, Mass., to charter

and establish in Boston a bank with a capital of \$1,000,000, to make Southern business a specialty, is a grand move in the right direction, and can be used advantageously as a medium through which more intimate business relations may be promoted between New England and the South, and that both sections will find profit in the strengthening of such intercourse.  
Yours truly,  
SAMUEL DIBBLE.

HOUSE OF REPRESENTATIVES,  
WASHINGTON, D. C., July 30, 1890.  
*Editor Manufacturers' Record:*

I concur entirely in the proposition that the establishment of some financial institution to bring the properties of the South into the markets where money is abundant will be of great benefit to the country. The greatest need of the South at present in a commercial way is money to develop its vast resources, and this I understand is the purpose of Mr. W. P. Rice in establishing a bank in the city of Boston.

Very respectfully,  
JNO. J. HEMPHILL, 5th S. C. Dist.

HOUSE OF REPRESENTATIVES,  
WASHINGTON, D. C., July 30, 1890.  
*Editor Manufacturers' Record:*

Anything which will bring the people of the North into closer connection with the people of the South will be for the benefit of our country. This can but be done by bringing Northern capital down into the Southern country. All that the South needs to become rich and great is the capital to develop its vast resources and utilize its great natural advantages. I understand Mr. W. P. Rice and his associates propose to organize a bank in Boston, Mass., which will devote its attention to the accomplishment of this object. Every citizen of the South will bid the enterprise a hearty god-speed.  
Yours truly,

ASHER G. CARUTH, M. C. 5th Ky. Dist.

#### How Southern Bankers Regard the Project.

The project of organizing a million-dollar national bank in Boston, under the broad plan proposed by Mr. W. P. Rice, is attracting the attention of financiers in all portions of the country, and letters endorsing the enterprise are going to him by the hundreds. One of our representatives has recently called upon Mr. Rice, and has been permitted to make a few extracts from the thousands of letters received from the different States:

Columbia, Ala.—"We are favorably impressed with your scheme and concede its practicability. We think also the plan upon which you propose to organize offers inducements to Southern capitalists other than a simple dividend return on their investment."

Montgomery, Ala.—"I see no reason why an institution of this sort should not pay handsomely. New England has the money and the South the enterprise. If we could only get the confidence of the New England people, it would be of great assistance to our people and will add untold millions to their great wealth. The plan you propose is a long step in the right direction."

Enfauila, Ala.—"Your plan I think an excellent one, opening new and most profitable channels of investment for the superabundant capital of New England and greatly benefiting those sections of the rapidly developing South to which investors are directed. The South is wonderfully rich in resources and opportunities, but requires additional capital to gather in the rich harvest she is capable of yielding."

Birmingham, Ala.—"Your point is well taken, and a bank of the kind you describe would be very beneficial to the South. We thank you very kindly for bringing this matter to our attention, and if we can be of any service to you we shall be glad if you will command us."

Jacksonville, Fla.—"I have no doubt of your project being successful and you have my good wishes."

Atlanta, Ga.—"I think well of your proposed bank. I think you could place some stock of your million-dollar bank here."

Savannah, Ga.—"I think it very likely that such a bank as you propose will be profitable from the first, and will secure a large business and find a field waiting for it."

Augusta, Ga.—"I have read carefully yours of the 8th, and think favorably of your project. I wish very much I could have a talk with you on your bank matter and this immediate section. As I said in the outset, I look upon your bank scheme as a great one, and would like in some way to be identified with it."

Louisville, Ky.—"I placed your paper before our directors, and it was discussed informally. They thought your plan of a Southern bank in Boston admirable, and bade me advise you they were in hearty sympathy with you, and would contribute in any way in their power to the advancement of the proposed institution. We wish to become better known to our New England brethren, believing the result would be mutually beneficial."

Grenada, Miss.—"Yours of the 30th inst. is this day at hand. I have read it with much interest, and will present the same to the leading stockholders of our bank, and it is likely some of them will take stock."

Corinth, Miss.—"We favor the establishment of the institution, and think it will greatly benefit the financial and social interests of both sections, and all our business in Boston and vicinity we will do through you."

Aberdeen, Miss.—"Yours of the 1st inst. received, and in reply thereto will say I cannot see why your proposed bank would not be a profitable investment, and if the object for which it is started is adhered to it will assist materially in developing the South. I hope your institution will prove a success in every particular."

Charleston, S. C.—"Yours duly received and read with much satisfaction. It will give me much pleasure to encourage your purposes in developing the South, even to the advantage of the East, thus cementing our mutual interests and tending to unify us as one people, one flag, one future. Any encouragement I can render your enterprise will be gladly at your service."

Gaffney City, S. C.—"I note what you say about establishing a bank in Boston. I will let you hear from me soon, as I consider it a good thing as you represent it."

Greenville, S. C.—"Yours of July 17th received, and in reply will say, having interests in Alabama I have occasion to know you well by reputation, and would be glad to join you in your banking enterprise."

Charleston, S. C.—"I am in receipt of yours of 5th inst. regarding the proposed organization of a bank in your section particularly devoted to the development of the South. I have no doubt of the success of such a bank, as capital is still much needed in our section, and money commands a fair interest, while the security there is more likely to improve than deteriorate. I will take pleasure in sounding my friends and recommending the bank if established."

Roanoke, Va.—"I think your scheme is a good one and hope you may get it up. I am of the opinion you will have no trouble in getting the amount subscribed."

Waynesboro, Va.—"I am in receipt of yours of the 2d inst., and have carefully noted what you have to say. I think your ideas very good, and I see no reason why an institution upon the plans you name and conducted as you suggest would not succeed and prove a fine institution. I trust you will soon be under way, and anything I can do for you in this section will do with pleasure."

Chattanooga, Tenn.—"With such management as a bank started through your instrumentality would be under, I think your proposed method would be a great success. You have so many admirers in so many different sections of the country that that fact alone would be very helpful to the institution. I am, of course, in entire sympathy with your confidence in the South, especially when expectation refers to this wonderful mineral belt."

Chattanooga, Tenn.—"I am in receipt of your letter of the 3d inst., and think the proposed banking enterprise a good one, and I wish you every success in its organization, etc."

Dallas, Texas.—"Your letter received. I believe that the enterprise of which you speak is a first-class one. I have no doubt if properly managed it will be a great success."

Houston, Texas.—"Yours of the 9th inst. received and contents read with interest. I am favorably impressed with the plan of establishing the bank you speak of, and I am confident it will be a paying institution."

Brewton, Ala.—"Yours of the 11th inst. received. In reply would say we would be very glad indeed to become interested in the bank enterprise managed by you, as we think it might become a very great benefit to our State."

Chase City, Va.—"Answering your favor of the 3d inst., I am favorably impressed with your scheme for establishing a national bank to be controlled in part by Southern capitalists, and think it will result beneficially to all parties concerned."

Huntington, W. Va.—"Yours of July 5th at hand and contents carefully noted. I don't question the advisability of a bank such as you propose not only being a good paying institution, but having a more salutary effect of re-uniting the financial interest of the North and South."

Spartanburg, S. C.—"Your letter of the 7th has careful attention. The plan you suggest of a representative Southern bank identifying the South with the moneyed men of your city and section strikes us as a good idea. There is no doubt a fine field South for the profitable employment of your capital at remunerative rates, and Southern banks can secure by such connections as you suggest the accommodations so much needed for the summer months, as this is the period of our most active demand for loans."

Fort Smith, Ark.—"I am in receipt of your favor of the 4th inst. Your references are useless, as I happen to know of you. I also know something of the work you have done in one of the towns named—Denison. We feel the need of such enterprises here and hope our people can become identified with your organization in some way mutually satisfactory and profitable. I would with your permission be glad to lay your letter before our board of trade with the hope that we might be able to develop something of mutual interest."

Statesville, N. C.—"I am in accord with your expressed belief that a bank organized on the plan you suggest would prove remunerative and materially aid in Southern development."

Columbus, Ga.—"I am quite sure that the scheme which you have on hand for organizing a million-dollar bank in Boston with the intention of making it the headquarters in the East for the development of the South, will be entirely successful, as it is eminently laudable."

Brookhaven, Miss.—"I am very much impressed with your scheme and think it very feasible, as the South is the legitimate field for Eastern capital. I am satisfied you will meet with all the success such an institution as you contemplate organizing desires."

Galveston, Texas.—"I think the project as set forth in your letter is a very feasible one, and will no doubt prove successful."

Washington, D. C.—"Your letter of the 7th inst. was forwarded to me here. I am heartily in sympathy with your enterprise and I believe it will be a success, and will send your letter with my views in writing to the cashier of our bank with instructions to confer with our board of directors regarding it."

Tazewell C. H., Va.—"Yours of the 8th inst. just received. I think the establishment of the bank you propose will be a success, and I think you will be able to get a good deal of Southern capital interested in it."

G eensboro N. C.—"Your name and successful efforts in behalf of Southern developments are not unknown to me. I have carefully considered the scheme outlined in your letter and it has my cordial endorsement. I will present its claims to such as I think would take an interest and write you further. In the meantime would be glad to have any further information you may be pleased to give me of the matter."

Corpus Christi, Texas.—Your esteemed favor came duly to hand and had my careful consideration. There is no doubt in my mind but that your project is a good one. If the bank is established on the principles which you indicate, it cannot help, in the hands of a good and conservative yet liberal management, becoming very prosperous and influential to its Southern connection and be very useful to both its Eastern and Southern friends. The South is as yet in an embryo state with immense resources known and yet unknown, and to develop these resources, which at present is the aim of all, large investments can and will be made on very remunerative terms, and your bank would be the very institution through which to accomplish this. The South wants and needs money to develop her immense resources, consequently money can be easily placed, and safely, too, and command a large interest rate; besides, the Southern people are liberal."

Rome, Ga.—"The \$1,000,000 national bank you intend starting in Boston upon the plans as stated in your letter, we are satisfied would tend to increase your already extensive operations in the South and would do much toward developing North Alabama and Georgia, where you have already done much in that line. We will gladly extend you any aid possible."

Chattanooga, Tenn.—"I have no doubt whatever that you will be as successful in your banking undertaking as you have been with your other enterprises in this section. Chattanooga has never had a supply of money equal to the demand, and hence our banks here have had no trouble in getting all the paper they wanted in the accommodation of regular customers. I am glad to say this much: If we had a surplus for investment I know of no man in whose hands I would prefer placing it to your own."

Chattanooga, Tenn.—"Referring to your favor of the 10th inst., regarding a \$1,000,000 bank to be located in Boston, I note fully all you have to say on the subject, and can see no reason why such a bank should not meet with success. Certainly with you at its head the outcome should prove satisfactory to all concerned and interested therein. I shall probably be in Boston within the next two weeks, and while there will surely call on you relative to this matter."

Natches, Miss.—"Let me know when you will have your bank ready for subscriptions and I will see what my friends will do in the way of taking stock."

Kissimmee City, Fla.—"I found your favor of the 9th inst. on my return home and hasten to reply thereto. Having given the matter careful consideration, it seems to me that a bank organized as you propose, with a capital of \$1,000,000, and conducted on the plan you suggest, ought to be very successful. Such an institution is badly needed to further the interests of the South."

## Industrial Notes From Middlesborough

Contract Signed for the Big Steel Plant.

MIDDLESBOROUGH, KY., July 28, 1890.

Editor *Manufacturers' Record*:

On Friday the 25th inst., the Watts Steel & Iron Co. signed a contract with J. P. Witherow & Co., of Pittsburgh, for the erection of the large open hearth basic steel plant, the contract price being \$539,000. It is stated that this will be one of the largest and most complete plants of the kind in the United States. It will give employment to several hundred men.

The Middlesborough Mattress & Excelsior Manufacturing Co., capital \$50,000, are now building a factory for the purpose of making mattresses and excelsior.

The large tannery, though not completed yet, will commence operation by the 1st of September.

Mr. J. C. Todd, Circleville, Ohio, an electrician of some note, has arrived in Middlesborough, and has been appointed superintendent of the Middlesborough Electric Light Co.

The Bank of Middlesborough is the name of a new bank started here last week, with a capital of \$50,000, the following gentlemen having been elected its officers and directors: President, J. P. Sandifer; vice-president, D. N. Mason; cashier, W. J. Kinnaird; directors, J. P. Sandifer, W. C. Alford, D. N. Mason, W. J. Kinnaird, D. F. Frazee, J. E. Grobmyer and J. R. Sampson.

Purchasers of the stock of the First National Bank are at last known. They are Theodore Harris, Esq., president of the Louisville Banking Co.; Mr. J. C. Treat, a prominent financier of Hartford, Conn.; Mr. C. H. Lochar, of Indiana, and Messrs. E. H. Pattee, J. E. West, C. H. Price and O. W. Davis, Jr., of this city. The reorganization of the bank has taken place, Mr. Theodore Harris being elected president, and Mr. C. M. Woodbury, vice-president of the Middlesborough Town Co., has been elected its vice-president; the name of the cashier is not yet given. The bank will increase its capital from \$50,000 to \$100,000, and Mr. Harris, who is one of the best known financiers of Kentucky, states that he intends to make the First National Bank one of the most prominent banks in the South. In an interview with your representative he states that he comes to Middlesborough because he believes thoroughly in its future prosperity, and that considerable money can be made in this section. This now gives Middlesborough four large and substantial banks, with good men at the head of them all.

Mr. A. A. Arthur and family, who have been spending the summer at Old Point Comfort, Va., will return here at the end of next week, and it is claimed that his trip to the sea shore has done him considerable good.

At Low Moor, Va., is located one of the most successful furnaces in the country. For years it has been widely known as one of the solid substantial iron-making concerns of the country that came into being long before the iron "boom" in this section. Low Moor, having this established industry, is now to become a general industrial town. The Low Moor Mining & Development Co. has been organized with S. M. Yost, of Staunton, president; Ham Shepperd, Warrenton, Va., vice-president and general manager; John McQuaide, Staunton, secretary and treasurer, and directors—John S. Barbour, Alexandria; S. W. Venable, Petersburg; G. A. Mushback, Alexandria; J. W. Perry, Norfolk, and Linden Kent, Washington, D. C., and the officers, except Mr. Shepperd. This is a very strong directory. The company has purchased 500 acres of land adjoining Low Moor for improvement

## ENTHUSIASTICALLY ENDORSED.

The Manufacturers' Record's Work Applauded Far and Wide.

Letters from the Highest Sources in this Country and Great Britain Testify to Its Value and Efficiency as an Exponent of Southern Development—The Splendid Results Which Have Followed Its Labors in Its Chosen Field—An Array of Approval Such as No Other Newspaper Work Has Ever Called Forth.

The MANUFACTURERS' RECORD since its establishment nine years ago has been wholly given up to the work of promoting the advancement and upbuilding of the Southern States. In its first issue its policy was outlined as follows:

"It has been demonstrated that there was an actual need for a paper which would adequately represent the manufacturing interests and would keep abreast of the rapid improvement in the material affairs of the South.

\* \* \* We shall give especial attention to the manufacturing and mining interests of the South, and, in fact, to whatever pertains to the material development of that section."

It has adhered unwaveringly to the policy had in view at its beginning.

During its earlier years its claims for the South, as to natural resources and development possibilities, were criticised and ridiculed by the incredulous public, but it has lived to see amply substantiated and verified all it ever claimed for the South, and its forecasts of Southern progress abundantly fulfilled; while the whole world has been brought to acknowledge the inconceivable variety and magnitude of the South's material wealth, and to look to the MANUFACTURERS' RECORD as the one general and authentic source of knowledge concerning Southern material affairs.

The publishers of the MANUFACTURERS' RECORD have had the gratification of seeing its work for the South, as they believe, rich in results, while, incidentally, as a profitable business undertaking, it has been a pronounced and eminent success; but one of the most pleasing accompaniments of their work has been the encouragement and manifestation of good will and assurances of appreciation coming from thousands of generous friends all over the country. They have sought always to deserve the approval of those who love the South and believe in it, and are identified with its advancement, and they are grateful for the encouraging words of commendation that come from them.

With pardonable pride we publish this week some of the letters recently received by the publishers of the MANUFACTURERS' RECORD. They are from the best men in the North, South, and Great Britain, and constitute an indorsement such as has never been given a newspaper before, so far as we have any knowledge. The MANUFACTURERS' RECORD started out to do a specific work which subsequent events proved was "the right thing at the right time." It is unnecessary for us to tell how the opportunity has been improved when we have such friends to speak for us:

THE IRON & STEEL INSTITUTE,  
2 VICTORIA MANSIONS, WESTMINSTER, S. W. LONDON, July 22, 1890.

I have had the pleasure of bringing under the notice of gentlemen interested in the iron industry of this country quite a number of matters that have recently appeared in your paper, of which I am bound to say I entertain a very high appreciation. The progress that has been made in the Southern States during the last two or three years has been perfectly marvelous, and there can be no better exposition of the details of that prominent progress than that which is given from time to time in your excellent journal.

J. S. JEANS, Secretary.

CORDLEY & CO., BANKERS, 121 DEVONSHIRE STREET,  
BOSTON, MASS., July 25, 1890.

We rank the MANUFACTURERS' RECORD as on the whole the most comprehensive and instructive organ of Southern development among American journals. This is not a hasty opinion, but is formed by testing the MANUFACTURERS' RECORD, in a weekly reading of it, by our extensive and thorough knowledge of Southern enterprises and investments at Cardiff, Tenn., and other important places. We may not fully concur with some of the MANUFACTURERS' RECORD's views about principles of legislation desirable for the South in common with the rest of the country. But these points of difference all are of a nature on which opposite opinions may fairly be held with equal patriotism. We do, however, fully appreciate and heartily approve your intelligent and zealous efforts to make the South better known to the people of the North, and particularly that part of the South—the great Alleghany mineral belt—which we believe is destined soon to become the most populous and prosperous district in the United States, and to astonish the world by the variety of industries founded on its mineral wealth.

CORDLEY & CO.

PHILADELPHIA, PA., July 26, 1890.

I have had great interest in the MANUFACTURERS' RECORD almost from its commencement, first receiving it in editorial exchanges, but now for some years as a welcome visitor to my library. I read every issue, and have been especially gratified to see with what vigor and success it has advocated the establishment of industries in the South. I believe it has been more effective than any other agency—I may almost say, than all other agencies—in the wonderful transformation through which a hundred flourishing towns have been built at the great mineral deposits and natural town sites which are offered in the more elevated districts of the Southern States. I cannot see that any of this vast investment has been or is likely to be misdirected. It will be a permanent body of wealth and an increasing industrial development for many years to come. There is nothing in the world's history to equal it, and when the honors due so great a work are distributed, your valuable paper will deserve the highest.

LORIN BLODGET.

BALTIMORE, CHESAPEAKE & RICHMOND STEAMBOAT CO.

BALTIMORE, MD., July 24, 1890.

I do not think it possible to correctly estimate the value your MANUFACTURERS' RECORD has rendered our Southern country. I have carefully and regularly noted it since its commencement, and always with interest and instruction, and while at first it was considered only temporary and of little actual value, its steadfast adherence to the claims of the South, and the careful and conservative manner of its statements, have brought it to the front rank as an authority on Southern interests, and,

I believe, helped very materially the flow of capital into the South and the prosperity incident thereto. I am pleased to know that, while doing this good work for the South, you have also made it a profitable venture, and hope your work will continue to grow and manifest itself until the entire South is placed before the world in the position her resources entitle her.

G. F. NEEDHAM, Gen'l Freight Agent.

THE BARNWELL RAILWAY CO.,  
BARNWELL, S. C., July 26, 1890.  
I think the MANUFACTURERS' RECORD a valuable paper, and has certainly done its share in developing all Southern enterprises.  
MIKE BROWN, President.

FORT PAYNE COAL & IRON CO.,  
FORT PAYNE, ALA., July 26, 1890.

The value and efficiency of the MANUFACTURERS' RECORD as an advocate of the advantages and capabilities of the South, as an exponent of Southern developments, as a means of keeping informed as to Southern resources and progress, and as to the value of the work it has done in behalf of improved conditions in the South, is incalculable. No man can estimate it; no man can comprehend it. The value already realized has been very much, but we have only commenced to feel the effects of it. Of course it is a matter of opinion as to how much credit should be given the MANUFACTURERS' RECORD. I have been a careful reader of the MANUFACTURERS' RECORD for the past two years, and thus formed the opinion expressed above. Its influence is not alone confined to its own readers, because I note that the Press generally quotes very freely from its columns, oftentimes sending what the MANUFACTURERS' RECORD has that day said by telegraph all over this part of the country. I wish you godspeed in your work. Nature has done its part in placing valuable resources in this part of the country for the raising of vast mineral and vegetable products, and your efforts have been wonderfully successful in calling the attention of the people thereto and influencing their action.

J. W. SPAULDING, President.

BALTIMORE, MD., July 24, 1890.

We are pleased to testify to the usefulness and efficiency of the MANUFACTURERS' RECORD as a medium through which Southern industries and enterprises are brought to the notice of the public, and to congratulate the publishers upon the growth and marked improvement in their journal.

JOHN A. HAMILTON & CO.

ATLANTA, GA., August 1, 1890.

The work done in behalf of the South by the MANUFACTURERS' RECORD is invaluable. Cannot compute the good it has done for the whole South.

VAN WINKLE GIN & MACHINERY CO.,

W. W. BOYD, Sec. and Treas.

PRESIDENT'S OFFICE, CAPE FEAR & YADKIN VALLEY RAILWAY CO.,  
GREENSBORO, N. C., July 26, 1890.

I have been a regular reader of the MANUFACTURERS' RECORD for several years. I know something of the methods employed by its managers in obtaining accurate and reliable information for its columns, and their painstaking efforts to exclude everything which is not sustained by positive and incontrovertible proof. I consider it the very best exponent of Southern industrial development and accept without question whatever it says in relation thereto. It has, in my opinion, done more for the material advancement of the South in placing before the public her vast and varied resources, and has been instrumental in bringing to this development more foreign capital, than any other agency employed in that behalf. And not only this, but it has inspired our own people with confidence and aroused them to put forth without stint their means and their energies for the upbuilding of our beautiful Southland. With grateful thanks for what it has done in the past and best wishes for its future usefulness and prosperity,

JULIUS A. GRAY.

COMMONWEALTH OF VIRGINIA, DEPARTMENT OF AGRICULTURE.

RICHMOND, VA., July 24, 1890.

I was attracted some two years ago by an article on Virginia's resources of minerals in your paper, and after carefully examining some few numbers was satisfied that its circulation would be of great value to our State. I subscribed to it for my department, and have read it carefully ever since. You courtously permitted me to re-publish for circulation a copyrighted article, and I now want to say that I am fully satisfied by interviews and correspondence with Northern capitalists and prospectors visiting my cabinet of minerals that the MANUFACTURERS' RECORD has been a potent factor in the great Virginia boom.

THOMAS WHITEHEAD.

BUCHANAN, VA., July 30, 1890.

Your paper has been of untold advantage to the South, and wherever I go I find it on the tables of business men. Much of the prosperity and development of the South we think is due to your journal and your efforts. I have to some extent used your advertising columns and received replies from all over the North, especially the Middle and New England States. Hoping you may push on the good work you have had so large a share in inaugurating, and may reap your just reward, I remain, very respectfully,

CHARLES L. WILSON.

ROME FOUNDRY & MACHINE WORKS.

ROME, GA., July 29, 1890.

We regard the MANUFACTURERS' RECORD as an invaluable factor in all that pertains to the development and advancement of Southern interests. As an exponent of progress in the South, we feel that it has proven of incalculable benefit to industries already established, and equally or more valuable in the formation of new enterprises. Your efforts have certainly been attended with grand results, and it must be a source of great gratification for you to know how far such desirable achievement may be attributed to your energy and unswerving devotion to the material upbuilding of the South.

ROME FOUNDRY & MACHINE WORKS.

July 29, 1890.

I have been anxious for months to give expression to the public through your columns of the exalted opinion I entertain of your most excellent journal, but it is always filled with such valuable information, not only to the South, but to the entire United States, that I refrained from writing, fearing I might prevent something being published more valuable; but your wise, timely, sensible and conservative editorial in your last issue on the Force bill entitle you to universal applause and thanks from every advocate of progress. I have been a reader of the London Mining & Railway Journal and all the commercial journals I could get access to, but for sound and reliable information the MANUFACTURERS' RECORD, in my opinion, excels them all, and its constant efforts to make such truthful and explicit exhibits of the resources of the Southern States makes it vastly more valuable.

JOE ATKINS, M. E.

PHILADELPHIA, July 23, 1890.

The MANUFACTURERS' RECORD is a graphic picture of the industrial South, that wonderful land of prolific cotton fields, luscious orange groves and sugar plantations—the land where the iron and coal embrace each other; where copper, lead and tin, gypsum, barytes and fire-clay are ores pure and plenty, while limestone and marble make up the foundations of it. The MANUFACTURERS' RECORD is to the industrial South as the sun is to the day. It comes to us as fresh as the morning, telling the doings of the week with truthfulness and energy, and as the sun with smiles of gladness sheds its orient beauties in its path, so our mind is made to glow with delight as we read the stories of development and profit from week to week in the MANUFACTURERS' RECORD; and I predict that when the South shall firmly take hold of the basic process her development will be so marvelous as to relegate all questions of a social and political character to the rear. Long may the MANUFACTURERS' RECORD live and flourish like the cedars of Lebanon.

JACOB REESE.

CHATTANOOGA, TENN., July 31, 1890.

I take especial pleasure in expressing my approval and thanks for the great service you have rendered the Southern country through the columns of your journal. The MANUFACTURERS' RECORD has been a steadfast exponent of the great advantages and resources of this section, and shown the possibilities and desirability for investment of capital, and by that source alone millions have been invested in lands—coal, iron, timber, etc.—which is already making the purchasers rich. The South is the coming section of this country. To the MANUFACTURERS' RECORD is due the credit for a large part of our prosperity.

N. I. MAYES.

THE MARION IMPROVEMENT CO. OF NORTH CAROLINA.

HARRISBURG, PA., July 30, 1890.

There is not a journal in the South, North or anywhere that will begin to take rank with you in value and efficiency as an advocate of the advantages and capabilities of the South. Whenever I hear of anything transpiring in the South and want a reliable account of it, I wait for the MANUFACTURERS' RECORD, and I never wait in vain or wait long. I think you have done more to help develop the South, and bring to public notice her resources and progress, than any other half dozen periodicals in existence. I state this unreservedly, after an experience of many years in journalism.

H. C. DEMMING, Secretary and General Manager.

NEW YORK, July 23, 1890.

I have for several years been familiar with the intelligent and systematic work you were doing towards calling the attention of manufacturers and capitalists to the great advantage of the South. Your efforts have recently been crowned with success, and you have reason to be proud of your work in this direction.

GEO. H. HULL.

BALTIMORE, MD., July 24, 1890.

We have been constant readers of the MANUFACTURERS' RECORD from the very first issue, and have always admired its energy and dignity and its honorable methods to win popular approval. The MANUFACTURERS' RECORD is singular and unique in its work, assisting in lifting up and bringing to the knowledge of the world at large the marvels of industry and enterprise and wealth of the New South. In the development of the great resources of the South every other section of the nation is a co-partner and indirectly shares in her prosperity, and should also share in the pride and strength of her brave, manly and noble people.

C. A. GAMBRILL MANUFACTURING CO.,

P. H. MACGILL, Vice-President.

LYMAN LAND & LOAN CO.,

MINNEAPOLIS, MINN., July 26, 1890.

I have read the MANUFACTURERS' RECORD for the past few months, and regard its efforts invaluable to the development of the Southern States. Being somewhat interested in Liano and Mason counties iron properties in Texas, I have read with interest your letters descriptive of the quality and estimated quantity of iron ore in that district.

C. E. LYMAN,

President Wakefield Iron & Coal Land Improvement Co.

STATE BANK,

MINNEAPOLIS, MINN., July 26, 1890.

The MANUFACTURERS' RECORD has been doing heroic work for the advancement of Southern prosperity and progress, and the services you have thus rendered are of incalculable value to the development of the South.

K. KORTGAARD, Cashier.

DANVILLE, PA., August 1, 1890.

On the 28th of November, A. D. 1886, during a visit, in company with the late Judge William D. Kelley, through the manufacturing districts of the States of Tennessee and Alabama, at the Anniston Inn, Anniston, Ala., I had my first pleasure in seeing and reading a copy of your periodical. I was very favorably impressed with its general style and the perspicuity of its delineations of the mineral wealth of the South. I have ever since given myself the pleasure of its companionship; and having now for four years been individually cognizant of the great industrial advancement of that section, I desire to say that you have, by your ability, candor and honesty, been a mighty factor in bringing about the wonderful results already attained. Well may you with pride point to the verification of the predictions you made four years ago as to the future developments of the South. With the advancement you have kept pace, and to-day your editorials teem with valuable suggestions, not chimerical, but feasible. I note especially your vigorous effort to place before Congress and the people the advantage to be derived from the proper improvement of the Mississippi river. To say that I am highly pleased with the MANUFACTURERS' RECORD is putting it very mildly.

JAMES D. KASE.

PINEVILLE, KY., July 29, 1890.

I am pleased to say that I consider your paper by far the ablest and most intelligent exponent of Southern resource and progress. While you have always painted the industrial possibilities of the South in glowing colors, results have fully justified all you have said and predicted and more, and I know that people at the North and East now have great confidence in the honesty and actual conservatism of your statements. You certainly stand conspicuously at the head in your specialty, no other paper approaching yours in value to the South, and you are entitled to great credit for the work which you have done. You have not only benefited the Southern States, but the whole country is indebted to you for so persistently and yet truthfully calling attention to these new fields for profitable labor, enterprise and investment. My first advice to "enquiring friends" always is, "Subscribe for the MANUFACTURERS' RECORD."

F. A. HULL.

WINSTON, N. C., July 25, 1890.

We have for the past six years been close observers of the efforts that you have been making in behalf of the Southern States, and are glad to see that you have lived to see the full fruition of your hopes and writings. That the South is now on a greater plane of prosperity than its most sanguine friends ever hoped for cannot be denied, and it is furthermore a fact that no one will deny that the MANUFACTURERS' RECORD has been the greatest factor in its development. The Southern people owe you a debt of gratitude which they can never pay, and we feel that we have a friend in your valuable paper that will be equal to any emergency. That the MANUFACTURERS' RECORD may long live and prosper is one of the greatest wishes of the Southern people.

P. H. HANES & CO.

RICHMOND, VA., July 25, 1890.

The MANUFACTURERS' RECORD is the most prominent and useful journal of its kind to the people and industries of the South. Its advice of Southern resources and progress are always full and reliable, and conspicuously brought forward.

RICHMOND LOCOMOTIVE & MACHINE WORKS.

G. F. JONES, Secretary.

THE BANK OF OXFORD.

OXFORD, N. C., July 25, 1890.

I have read the MANUFACTURERS' RECORD with much gratification and pleasure during the past twelve months. It advocates the advantages and capabilities of the South with great ability, and keeps constantly before the eyes of its readers the wonderful progress, resources and development of the South. It is certainly doing great good for our Southern country.

H. C. HERNDEN.

ROANOKE BUILDING CO.

ROANOKE, VA., July 24, 1890.

I know of no paper (or periodical) published either North or South, that has accomplished more in bringing the wonderful natural resources of the South to the attention of capitalists, or contributed more to the general prosperity with which it has for several years been blessed, and trust you will continue to carry forward this good work in which you are engaged.

E. H. STEWART, President.

BALTIMORE, July 25, 1890.

We regard the MANUFACTURERS' RECORD as a most valuable paper, and especially promotive of Southern interests; it has certainly done a most valuable work in bringing to the notice of capitalists in this country and abroad the immense resources of our Southern section.

WOODWARD, BALDWIN & CO.

THE JOHN F. KING MANUFACTURING CO.

AUGUSTA, GA., July 25, 1890.

We think you have done a great deal towards the development of the various industries in the South since the commencement of the publication of your valuable paper.

CHAS. ESTES, President.

LOUISVILLE, KY., July 25, 1890.

We do not think you can take to yourself too much credit for the work that you have accomplished in behalf of Southern industries and improvement. Your abiding faith in the destiny of the South has contributed in no small degree, we think, to the success of many legitimate enterprises, which otherwise would not have even been broached.

W. B. BELKNAP & CO.

MOUNT VERNON MILLS.

BALTIMORE, July 24, 1890.

As constant readers of your paper it affords us the greatest pleasure to express our admiration of its success in every way; 'tis really wonderful what you have accomplished in so short a time, and surely the South particularly are deeply indebted to you.

RICHARD CROMWELL, President.

BALTIMORE, July 24, 1890.

We appreciate very highly the successful efforts of the MANUFACTURERS' RECORD in disseminating the information as to the natural resources and industrial developments of the South. We have found your paper to be an important medium of information on the above points and thoroughly reliable, and, judging from our own experience, we would consider it to be a most valuable advertising journal.

WILSON, COLSTON & CO.

SEABOARD AIR LINE SYSTEM.

PRESIDENT'S OFFICE, BALTIMORE, MD., July 25, 1890.

I do not hesitate to say that the MANUFACTURERS' RECORD has rendered the most valuable and efficient aid towards the development of the South—such, I think, as has been afforded by no journal. It has been the means of keeping the public informed as to the South's resources and progress, and I have no doubt that many of the enterprises started in the South within the last few years have been due to the attention brought to them by the MANUFACTURERS' RECORD.

JOHN M. ROBINSON.

LYNCHBURG, VA., July 24, 1890.

Of all the industrial or commercial publications that come to my office I regard the Baltimore MANUFACTURERS' RECORD pre-eminently head and shoulders above them all, singly or collectively, and this I have more than once expressed to your correspondents as I have met them. A very great percentage of the business that is now pressing me to my utmost energies to keep up with not only came through your MANUFACTURERS' RECORD, but actually from but two or three of its columns, viz., Building Notes and Construction Department, which departments are the best arranged and fullest and most reliable that come to my notice or that I can find. I have been solicited frequently to become a subscriber to a publication at \$100 per annum that was designed especially to furnish men in my business only the "inside track" on our business. It remains a fact that there is more by ten times solid value in your Building Notes of one issue than I have seen in the combined "sample copies" sent me, and they have not been a few. Up to about three years ago I had time to read quite carefully everything your journal contained, but since that time I find that the columns I have referred to are nearly all I can notice; and, as I stated above, this state of my business is very largely due to the two departments named above. If the subscription price of your journal was \$100 per year it would still be large money in my pocket to remain a subscriber. The value of the work your journal has done in behalf of the improved conditions in the South is simply incalculable, and you should need no better evidence of this than the evidence your exchanges show you in their unlimited extracts from your paper.

WILLIAM A. HEFFERNAN.

CINCINNATI, OHIO, July 25, 1890.

We desire to say that we regard the MANUFACTURERS' RECORD as one of the best journals of its class in America. It seems to combine enterprise, ability, good judgment and loyal devotion to its special field in a degree that is uncommon in class journalism. We wish the conductors of the enterprise continued and large success.

ROGERS, BROWN &amp; CO.

53 DEVONSHIRE STREET, ROOM 4, BOSTON, August 2, 1890.

Among the many publications devoted to Southern industrial affairs that come to this office none is so welcome as the MANUFACTURERS' RECORD. Its weekly edition is a condensed encyclopedia of Southern information; its editorials are sound and forcible, and carry with them a logical conviction; its letters from traveling correspondents in various sections of the South have often impressed me with their accuracy of description and correctness of deduction, and must be of great benefit to the richest though until recently the most neglected, section of our country, the South. Unlike many financial and industrial papers, its articles do not seem to be inspired by an assured or contingent advertisement. I have been familiar with sections of the South through which your correspondents have passed, and in which an advertisement or fee of any kind was not even a remote possibility, yet their descriptive letters have been remarkable for their fairness and for their intelligent discernment. There is no spirit of bombast manifest in your columns; on the contrary, there is a degree of conservatism that is highly creditable. That your publication has become a remarkable financial success is simply in keeping with the natural order of things.

S. LAWRENCE FRENCH, Secretary and Treasurer

Clinchport, Va., Improvement Co., Black Mountain Coal &amp; Iron Co., Stock Creek Coal &amp; Iron Co.

NASHVILLE, TENN., July 30, 1890.

I have read your valuable paper for more than a year, and I am satisfied that you are doing a good work for the South, and, so far as I know, you are doing a work that no other journal has ever done. You deserve the support of our people. Your efforts to call the attention of men of means and push to the varied resources of the South will do much to our upbuilding, and I wish you great success.

WM. H. MORROW.

NATIONAL ELECTRIC MANUFACTURING CO.

WASHINGTON, D. C., August 2, 1890.

The MANUFACTURERS' RECORD is invaluable and as effective as possible. I have carefully read every issue of your paper for the past two years, and have traveled pretty much all through the Southern States and found the MANUFACTURERS' RECORD everywhere and well thought of by everyone.

L. N. COX.

WASHINGTON, D. C., July 26, 1890.

I make several visits South annually to invest in Southern property, both for myself and my friends, but I rely more on the MANUFACTURERS' RECORD for valuable data than I do upon my own personal visits, simply because by it I am directed where the best investments are, and have only to investigate to find that the representations of the Baltimore MANUFACTURERS' RECORD are correct. I must thank you for myself and friends for very valuable investment in the South, as we got the information leading to the purchase through your columns. I have just returned from Alabama, Mississippi and Tennessee, in which States I have recently made investments in timber and coal properties at a very reasonable figure, showing there are still opportunities for purchasers. In every manufacturing establishment I visited I found a copy of the MANUFACTURERS' RECORD.

A. E. RANDLE.

ATLANTA, GA., July 31, 1890.

I do not believe that the work done by your paper can be overestimated. There is no doubt that it stands in the highest rank as an exponent of Southern development. I trust that you will continue throughout the South and the country generally that support you have so justly merited.

PAT CALHOUN.

THE AMERICUS INVESTMENT CO.

RICHLAND, GA., July 25, 1890.

I beg to add my testimony to the great and lasting good to our section accomplished by your journal. It has helped to build up and foster every legitimate Southern enterprise, and should receive the hearty support of every business man in the South. As a real estate agent, and as the representative of one of the strongest corporations in Georgia, I am in position to know and feel the beneficial influence of your publications. I am proud of the MANUFACTURERS' RECORD. May it live long and prosper.

J. A. WALKER, Agent.

CINCINNATI, OHIO, July 28, 1890.

I take pleasure in bearing testimony to the value of your most excellent paper. I have been familiar with it during the nine years of its life, and my admiration of it has grown steadily, and I look more anxiously now for each number than ever before. It has been a very active agent for me in my business, not only in carrying my advertisement to buyers in my line, but it gives me information regarding new enterprises and buyers which I carefully follow up, and satisfactory business often results. But aside from the benefits of your paper to any individual subscriber, is the great work you have done and are still doing for the South. I believe that more than any other one agency you have made known her resources, encouraged those at home to develop them, and persuaded capital from other sections to join in the great work. To me it seems that your paper was started with this one end in view, and that it has been consistently sustained throughout. I trust that at the same time it has proven remunerative to you, for if ever any publication deserved well of any section the MANUFACTURERS' RECORD deserves well of the South. That it will be sustained and valued so long as you continue your splendid work does not admit of a doubt.

WM. MINNIGERODE.

WESTERN MARYLAND RAILROAD CO.

BALTIMORE, MD., July 26, 1890.

I have been a careful reader of the MANUFACTURERS' RECORD since its first publication, and have been much impressed with its progressive spirit and its value in promoting the manufacturing and other interests of the South. In my judgment, it has now reached the point of being the recognized Southern bureau of information for the entire country.

J. M. HOOD, President.

ROCKBRIDGE CO.

GLASGOW, VA., July 26, 1890.

I consider the MANUFACTURERS' RECORD the best advocate of the advantages of the South ever put in press. The work that it has been and is now doing cannot be estimated. In my travels in the interest of Southern developments I have found it in every workshop and upon the table of every capitalist seeking investments.

M. M. MARTIN.

CORPORATE OFFICE MAGNETIC IRON &amp; STEEL ORE CO.

BLACKSBURG, S. C., July 31, 1890.

The MANUFACTURERS' RECORD is the very best publication we have at the South to keep the world at large correctly posted as to our rapid development and vast and varied natural resources. No man of enterprise should be without it. Its files will be a correct index of our progress in material development, as no enterprise of an industrial character, great or small, escapes notice in its columns. You have my best wishes for your continued success, which you so well deserve as the South's best working friends, and which I feel assured you will continue to meet.

JNO. L. BLACK.

THE BILLINGS &amp; SPENCER CO.

HARTFORD, CONN., July 24, 1890.

We consider the Baltimore MANUFACTURERS' RECORD one of the best and brightest publications of its class in the country and the best Southern paper published.

F. C. BILLINGS, Assistant Superintendent.

CINCINNATI, OHIO, July 29, 1890.

We have for many years watched the MANUFACTURERS' RECORD carefully, and its earnest efforts to bring around an improved condition of affairs throughout the mineral sections of the South. We are pleased to say that it meets with our cordial approbation in every particular. From an advertising standpoint, the MANUFACTURERS' RECORD is considered the very best of our class journals. We have had better and richer results from our connection with it than almost any other paper.

THE EGAN CO.

KNOXVILLE, TENN., July 25, 1890.

I regard the steady, unflagging and systematic work of the MANUFACTURERS' RECORD for many years past in disclosing the great and varied natural wealth of all portions of the Southern States and the opportunities for its profitable development, together with the periodical tabulated record of the progress of Southern industrial expansion, as having been more potent than any other single instrumentality in bringing about results in the creation of wealth which are unprecedented even in American history. The South needs only that its resources shall be made known and its advance recorded. Southern industrial progress is exerting an indirect force more valuable even than the enormous material wealth it is producing. It is bringing about, by the establishment of like institutions, common interests with all other sections of the country. Whenever our politicians and legislators shall get into their heads a dim suspicion that the daily work of sixty odd millions of people, each one propelled by direct needs and ambitious to do with his mite what his hands find to do, is more likely to solve the problems of national salvation than is the eternal and pestiferous tinkering and meddling of unscrupulous political leaders anxious only to perpetuate themselves in public notice by estranging and antagonizing the people of different sections of our country—or whenever our people realize this fact—we shall be able to eliminate the only friction which prevents our national industrial machine from reaching its fullest results in producing and exchanging the wealth of our land, and in securing that harmonious and perpetual union for which our great civil war opened the way.

GEO. B. COWLAM.

HIGH POINT, N. C., August 1, 1890.

In my opinion the MANUFACTURERS' RECORD has been of the greatest value in showing up the South and its possibilities, also largely the cause of its present industrial activities.

J. ELWOOD COX.

DENISON, TEXAS, July 30, 1890.

We write to assure you of the high esteem in which we hold your publication as a means of upbuilding and development of the South. We believe that no other agency has done more to call the attention of manufacturing capital to the inexhaustible resources of this section than has your publication. Believing that you are entitled to and are receiving the gratitude of the Southern people, we take pleasure in adding our testimonial to the merits of your work. Believing that the development of the South is yet in its infancy, and that its unlimited resources are not yet realized by the capital of this country, we congratulate you upon the field of usefulness still before you, and wish you the fullest measure of success that your merits and faithful advocacy of Southern enterprise entitle you to receive.

MUNSON &amp; BRO.

KING'S MOUNTAIN, N. C., July 30, 1890.

After perusing the MANUFACTURERS' RECORD for several years, I have noticed its continual enhancement in power, influence and general benefits. The excellent editorials and articles and letters from mining engineers, geologists, scientists and chemists, as well as communications from experts in agriculture, manufacturing and general industries, which constantly appear in the MANUFACTURERS' RECORD, together with advertisements from the most respectable and powerful companies and firms in the land, cannot fail to show its character and its importance as a medium to supply benefits to advertisers, readers and inquirers after the good things of the Southern States. Let the MANUFACTURERS' RECORD continue to go on in its blessed course, and to unfurl the banners of prosperity of the "New South." I believe that the time is near when the South will yet beat the North, not in war of guns, swords and torpedoes, but in the commercial war for supremacy in the markets of the world. "King Cotton" is still alive in the South, and will henceforth work his powers at home, utilizing natural resources and raw materials at home; and the grand relatives of King Cotton—the fruits, the hardwoods and softwoods, the gold, silver, slate, marble, zinc, tin, lead, talc, steel-making ores and coking coal—born since the war, are now growing strong. Probably it is a blessing for the North to beat the South for rebellion, and probably it will be—and it is—a blessing to the brave Southerners (who suffered so much for many years after the war to fight the battle of life) to make home industries and developments and business powers of the South to beat "smart Yankees" and dignified Britons in the battlefield of commerce and in the kingdom of social progress and goodness. The South is fast becoming a leading power in the world, and the South is indebted to a great extent to the MANUFACTURERS' RECORD for the proper stimulants and careful guidance.

THOS. P. WILLIAMS, M. E.

VIRGINIA, TENNESSEE &amp; CAROLINA STEEL &amp; IRON CO.

WASHINGTON, D. C., July 29, 1890.

We consider the work that you have done and are doing in affording superior facilities for the South to place before the country its resources, your method of canvassing and placing them before your readers, and your continued faith in the outcome and prosperity of the South, is an important factor in the very rapid growth of population and the substantial development of its natural wealth.

T. H. WESTWORTH, JR., Secretary.

PHILADELPHIA, PA., August 1, 1890.

I regard the MANUFACTURERS' RECORD as being by far the best publication I know of to record the great advances made daily in the South in the way of new businesses and one that has made itself a necessity to every live business man in that section.

MACON GAS LIGHT & WATER CO.,  
GEO. F. WORK, Treasurer.

THE BUILDERS AND TRADERS' EXCHANGE.

LOUISVILLE, KY., July 28, 1890.

The MANUFACTURERS' RECORD has seen the dawn of Southern possibilities, and in every way has called attention to the valuable mineral fields, rich timber lands and the natural resources of this promising region; and in championing the South, the realizations of its claims should be a matter of pride and satisfaction to the MANUFACTURERS' RECORD, and those interested in the enterprising South. There cannot be sufficient praise and commendation for your admirable paper as a disseminator of information. The different departments are models of arrangement, containing as they do comprehensive and pertinent topics, and the columns are replete with news of interest, pith and moment.

LEO P. KAUFMAN, Assistant Secretary.

NORTH CAROLINA STATE AGRICULTURAL SOCIETY.

RALEIGH, N. C., July 28, 1890.

As to the value of the work the MANUFACTURERS' RECORD has done in behalf of improved conditions in the South there can hardly be two opinions. You might go further. The value of it work in behalf of improved conditions in the North is very great. It has told the truth and stuck to it. It has told the South it had something to sell and the North where it could buy. It has preached the charitable doctrine of laying aside prejudice and meeting and trading as fair, honest merchants, and it has stuck to it. Many other papers started in the same line, but they lost the sight of their guns and fired wild. The MANUFACTURERS' RECORD has stuck to its task. You deserve the good-will of the people; you give your readers full value for their money, and we all hope you are making lots of it.

P. M. WILSON, Secretary.

FREDERICK, MD., August 4, 1890.

It affords me great pleasure to say that I think the MANUFACTURERS' RECORD, as an advocate of the advantages and capabilities of the South, has been of untold value to the people of this country, and that the work it has done in behalf of the South cannot be estimated by dollars and cents.

W. IRVING PARSONS.

GRAHAM, VA., August 2, 1890.

I can truly say that the MANUFACTURERS' RECORD is far ahead of any other publication that I have ever seen that attempts to cover the same ground.

R. K. WRIGHT,  
Agent Graham Land & Improvement Co.

THE COMMERCIAL AND INDUSTRIAL ASSOCIATION.  
MONTGOMERY, ALA., July 26, 1890.

As an advertising medium and advocate of the advantages and capabilities of the South, the MANUFACTURERS' RECORD is a recognised and highly appreciated exponent. In my opinion it is doing a good work, and leads every journal of its class in the achievement of practical results tending to develop the wonderful resources of this section.

W. C. BIRD, JR., Secretary.

NEW ORLEANS, LA., July 26, 1890.

I hold as incalculable the benefits to Southern development which has been stimulated, encouraged and obtained through the power and force of the working of the columns of the MANUFACTURERS' RECORD.

W. H. HOWCOTT.

WILMINGTON, N. C., July 28, 1890.

We believe the MANUFACTURERS' RECORD has aided very much in developing the natural resources of the South.

AMERICAN PINE FIBRE CO.

CLARKSVILLE, TENN., July 28, 1890.

The value your paper has been to the Southland is simply incalculable. In actual money value it mounts up to more millions of money than we can well estimate. Without giving any encouragement whatever to "booms" or speculations, it has shown truthfully in what the resources of the South consisted, and in what manner they could most profitably be developed, giving real investors the best sources of information they could find. Your system of mapping out and classing the various fields for enterprise, and record of the progress made in mining, manufacturing and road building is an admirable one, and your mass of advertisements is the best evidence that it is appreciated by all workers in the mechanical arts. Not being interested in such ourselves, we stopped your paper once, but were compelled to renew our subscription, as we could not afford to be ignorant of the great work going on.

M. H. CLARK &amp; BRO.

CHARLESTON, S. C., July 26, 1890.

I regard the MANUFACTURERS' RECORD as being the direct means of influencing many of the present enterprises that have so materially benefited the South. The plain and unbiased statement of the resources of our section and the advantages to be derived from the union of capital, energy and business methods has attracted those possessing these essentials. The immense field of enterprise, the almost incredible resources of the South needed only a plain representation to attract attention, and that your journal has been able to do this admits of no doubt. The past and present are only indications, not consummations of what will be the result of your efforts to call attention to this hitherto neglected section of our country.

SAMUEL R. MARSHALL.

TAEZEWELL C. H., VA., July 26, 1890.

We have taken the MANUFACTURERS' RECORD for nearly a year, and beg to say that we are much pleased with it. It has done a good work for the South in stimulating her various industries and giving reliable information as to the progress of industry all over the South.

A. J. &amp; S. D. MAY.

PHILADELPHIA, PA., July 30, 1890.

The rapid advancement, increased wealth and industrial development of the Southern portion of our country marks an era in history which has no parallel and commands the admiration of the world. Honor and distinction reflect upon the promoters and enterprising workers in this great field of progress, and an abundant share is due the MANUFACTURERS' RECORD for its earnest and persistent efforts and courageous support in behalf of the New South.

GOODSELL &amp; WATERS.

MILBURN GIN &amp; MACHINE CO.

MEMPHIS, TENN., July 26, 1890.

We have always found the MANUFACTURERS' RECORD to be of great benefit to us in our business, especially so, as we can send the clippings to our travelling men, who are in the country throughout the different States, and to our sub-agents selling our machinery, and we have been able to capture many orders in this way.

D. A. REES, Secretary.

BIRMINGHAM, ALA., July 26, 1890.

The MANUFACTURERS' RECORD has proved itself a valuable and valued friend to the South in setting forth its advantages and resources, and in repeatedly drawing the close attention of capitalists and others to the same, thereby encouraging the investment capital and inducing immigration so necessary for the country's success.

J. H. PRATT.

TOWN OF WEST POINT, VIRGINIA.

MAYOR'S OFFICE, July 25, 1890.

There can be no question but that you have in the strongest manner advocated the interests of the Southern States in whatever was necessary to aid in developing the different sections thereof, and I trust your efforts have been the cause of the improvements manifested at many Southern points.

E. WILKINSON, Mayor.

From a Chattanooga firm:

We think that the MANUFACTURERS' RECORD has been like the sun in the influence that it has shed over the Southern manufacturing interests. It needs no praise, and nothing that can be said can add a particle to its value. In my travels I find it on every desk among my customers, and it is spoken of by every one in the very highest terms, and its pages are read with a great deal of interest. It is looked to as a reliable source of information by both producers and consumers, and it is filling a place in the Southern manufacturing interests which otherwise would have been a vacancy. So far as its results are concerned, it has richly fulfilled the objects for which the paper was started.

GREENSBORO, N. C., July 26, 1890.

I always read your paper with much pleasure. I receive several trades papers, but value the MANUFACTURERS' RECORD most. I think your paper has done more to advance Southern enterprises than any other medium which I am familiar with.

W. R. BURGESS.

SPARTANBURG, S. C., July 25, 1890.

We heartily appreciate the effort put forth by your valuable paper, and recur to its columns to find any new developments, even in our midst. We think your efforts will redound to your own interest as well as to the benefit of the South, and wish you success.

L. C. CANNON, Cashier.

CHICAGO, ILL., July 25, 1890.

We have been advertising in your publication for a number of months, and have found it a highly satisfactory medium for presenting our business to the public. We are constantly in receipt of a large number of inquiries from parties whose attention has been called to our manufactures through our advertisement in your columns. We have tried other papers in the South, but with far less satisfactory results than obtained through yours.

HERCULES IRON WORKS.

FRANK L. STRONG, Secretary.

JARVIS-CONKLIN MORTGAGE TRUST CO.

KANSAS CITY, MO., July 25, 1890.

We have noted with much interest the position taken by your paper relative to the South, and the advancement and upbuilding of that section of our country. There is no doubt in our minds but what your paper has been very largely instrumental in directing the attention of capitalists and manufacturers to the advantages possessed by the South, and to you no small share of the credit is due for the development that has taken place. We congratulate you upon the successful issue of many of your development projects, and have no doubt but what the good work done by you has been greatly appreciated through the South, as well as many sections of the North.

ROLAND R. CONKLIN, Secretary.

PROVIDENCE, R. I., July 25, 1890.

Had I nothing further than my year's subscription to judge from, I would say that your efforts as set forth in the publication of the MANUFACTURERS' RECORD had been of great value to the South in assisting her to develop her great resources, but I have also seen in passing through the South, as I frequently do, and meeting her broad-minded and generous-hearted people, that not only are you rendering a valuable service, but that the service is appreciated by those whom you seek to benefit, and no doubt your subscription list will corroborate their appreciation of your efforts.

C. R. MAKEPEACE.

CHATTANOOGA, TENN., July 26, 1890.

It affords me pleasure to add my commendations to your unswerving devotion to the interests of the South, and to express my belief that your efforts in this direction have not only been judiciously put forth, but in my opinion have also had the merit of conservatively presenting to your readers the business interest and progress of the entire South, and I believe you have made an enthusiastic effort, coupled with sound judgment. Your enthusiasm over the subject certainly cannot be doubted, while I think your judgment has been sound in the method of expressing your beliefs and stating facts in connection with the development of the South. I hope you may be more successful in the future than you have been in the past, even in convincing those looking for investments.

F. A. ESTEP.

MONTVUE LAND CO.

MORRISTOWN, TENN., July 25, 1890.

It affords me peculiar pleasure to be able to testify to the value and efficiency of the MANUFACTURERS' RECORD in the great work of which it has been, if not the pioneer, certainly the most pronounced and effectual medium, of upbuilding the resources and advantages of the South. I have been for many years a diligent student of its columns and an ardent admirer of its methods, and I am of the opinion that to it, more than to any other agency, is due the wonderful awakening that recent years have shown, of capitalists both abroad and at home, to the importance of developing and utilizing the vast and varied resources of the South. It has stimulated the discovery of these resources, and has been a weekly chronicle of them. It has inspired the starting of new enterprises, and given a weekly record of them. It has encouraged the investment of capital in my portion of the South, and demonstrated the marvelous profits resulting to the investors. While in the early progress of its work, many of its statements were supposed to be overdrawn, and its predictions were characterized as chimerical, time has demonstrated that even its most startling claims were strictly conservative, and its prophecies have been more than fulfilled. The MANUFACTURERS' RECORD merits the highest commendation, not only from the South, for which it has done so much, but from those of the North and East, who have been persuaded by its teachings, for they have gleaned and are garnering rich harvests from small plantings.

O. C. KING.

THE NATIONAL MANUFACTURING CO.

NASHVILLE, TENN., July 31, 1890.

Your journal is full of valuable information, and we read it with pleasure. It is the champion of Southern progress.

NATIONAL MFG. CO.

CHARLESTON, S. C., July 26, 1890.

The necessity for a central organ of opinion and accurate information for this great and growing Southland must be apparent to every thoughtful citizen who would have this "coming El Dorado of American adventure" take its more advanced place in our great union of States.

WM. A. COURTHENAY.

CHAMBER OF COMMERCE.

FORT SMITH, ARK., July 26, 1890.

Your paper is kept on file in our office, and is valued highly by all on account of the excellent work it is doing in building up the manufacturing industries of the Southern States, in which work, if it has any equal, certainly has no superior.

J. H. CLERDING, President.

CHARLOTTE, N. C., July 30, 1890.

It gives me pleasure to express my appreciation of the MANUFACTURERS' RECORD as an authority both reliable and enterprising. It is eagerly sought by many of our guests, who report its columns for information on all that pertains to the South, the improvements going on, and its rapid advancement in all that conduces to its highest prosperity.

G. W. KITTELL.

F. W. WAGENER &amp; CO.

CHARLESTON, S. C., July 25, 1890.

I have for several years read the MANUFACTURERS' RECORD with much interest, and regard it as a valuable paper. I am confident its publications has been of great advantage to the South.

GEO. A. WAGENER.

ATLANTA, GA., July 26, 1890.

It affords me real pleasure to testify to the enterprise, intelligence and accuracy of your publication. It is my candid opinion that no other single agency has contributed more towards developing the South and restoring harmony between the sections than the MANUFACTURERS' RECORD. It has been a mine of statistical information from which the best papers all over the country have culled extracts of great value to the people. I sincerely hope that the support of our people may be continued and greatly increased.

A. J. McBRIDE.

GADSDEN, ALA., July 29, 1890.

In my opinion, there have been no efforts made for the building up of the South, and the State of Alabama in particular, that have been so productive of good results as the intelligent and persistent efforts of the MANUFACTURERS' RECORD, and this fact is acknowledged and fully appreciated by our people.

J. H. WILEY.

NORFOLK, VA., July 25, 1890.

In my past experience of 25 years in the mercantile business of this city, I have not met with or subscribed to a more live work than the MANUFACTURERS' RECORD, particularly as to the resources of the South and its development, and consider it well worthy the subscription of the capitalist, merchant, or those seeking general information.

JMC O. GAMAGE.

ROCKWELL, ROWAN CO., N. C., July 25, 1890.

I have much pleasure in chronicling my appreciation of the great work that has been accomplished, and is still with renewed vigor being accomplished by the MANUFACTURERS' RECORD. Not only in bringing prominently before the world the many and varied advantages offered to all descriptions of industry in the South, but in being a valuable and trustworthy bureau on all matters relating to industrial progress, and the spokesman of the South's achievements and resources. It pursues a policy, in placing before investors and capitalists such valuable and practical information on the mineral resources of the South, that cannot fail to bring it the highest credence, and afford the greatest satisfaction to those in quest of authentic data. I refer to the work that is being accomplished by your corps of experts, whose special business it is to thoroughly examine into the merits and advantages offered by any particular section of the South, on which the information contained in the articles appearing from time to time in your paper are based. By continuing this system there can be no question the MANUFACTURERS' RECORD will maintain the position it has so justly attained as being the most reliable organ devoted to the building up of the South and the renaissance of her trade. I am among the few who for years have been carefully and systematically examining into the mineral resources and the advantages offered for cheap and effective manipulation of the ores in the South, which in my opinion are not surpassed in any part of the world. I am, consequently, better able, perhaps, to appreciate and endorse the good work that is being performed by your paper in bringing before the people the South's resources and advantages. Evidence of the thorough and effective performance of your work is observed in the number of steel and iron industries and other commercial enterprises which are everywhere springing up, which, in my opinion, is only the beginning of an era which will be unsurpassed in the annals of the world. The Blue Ridge is an undeveloped store of minerals, clothed with an abundance of the finest timber, watered by never-failing streams affording valuable motive powers. These reducing the cost of development and manipulation of the ores to a minimum, and added to the climatic benefits, must, in the course of the next 50 years, become that wealthy and important country so frequently portrayed by the MANUFACTURERS' RECORD.

EGLIER B. C. HAMBLEY.

BRISTOL, TENN., July 24, 1890.

When I remember how little enterprise was displayed by the people of the South eight or ten years ago, and see the wonderful strides now being made, I am led to think what has brought about this wonderful change, and I can think of no agency that is entitled to more credit than the MANUFACTURERS' RECORD. The people of the South never knew until the last few years what wonderful resources we had, and by reading your valuable journal many of us have been enthused until we have almost concluded when a Southern man is fully aroused he has as much enterprise and push as your Eastern men. Let your good work go on; the half has not been told of the possibilities of the South. The next five years will surprise the most sanguine.

A. D. REYNOLDS.

DAYTON, OHIO, July 25, 1890.

We regard the MANUFACTURERS' RECORD as one of the best, if not the very best publication of the kind in the country. We especially admire the enterprise shown in calling attention to the enormous natural advantages of the South, and also in the development of these advantages. We are of the opinion that you have rendered a most valuable service in this respect to the entire country. We rejoice greatly in the growing prosperity of the South, and are glad to number among our valued customers a large patronage in that section of country, which is constantly being added to. With the natural advantages possessed by the South, we see no reason to prevent a development there of material resources and wealth of almost incalculable extent in value.

STILWELL &amp; BIERCK MANUFACTURING CO.

DIAMOND PROSPECTING CO.

CHICAGO, ILL., July 26, 1890.

We have found the MANUFACTURERS' RECORD of assistance to us in securing our very satisfactory Southern trade. We like its methods, and consider it clean and enterprising. We feel that any paper devoting itself so energetically to Southern interests must be of the greatest possible aid in developing the New South.

F. K. COPELAND, Vice-President.

Tredegar offers the most inviting field in the United States for the establishment of manufacturing enterprises.

*It has Unequalled Advantages for*

Iron and Steel Works, such as Furnaces, Rolling Mills, Machine Shops, Foundries and everything using iron.

Car-Wheel Works, Car Shops.

Cotton Mills, Knitting Factories, and other Textile Industries.

Cotton-Seed Oil Mills and Fertilizer Factories.

Woodworking Industries of every sort, Saw and Planing Mills, Sash, Door and Blind Factories, Furniture Factories, Handle and Spoke Factories, Agricultural Implement Works, Carriage and Wagon Factories, &c.

Brick Works for making Building Brick, Vitrified Brick, Fire Brick, &c.

Sewer Pipe Works.

And many other industries.

The most liberal inducements will be offered to those who desire to locate such industries.

*The Best Location in the Country  
for New Enterprises.*

# TREDEGAR, ALA.

*Here Are Found :*

The finest Hematite Iron Ores in the South.

Extensive Manganese Deposits that experts from Pennsylvania and elsewhere believe to be the greatest in the United States.

Vast Forests of Fine Timber, Pine and many varieties of Hardwoods.

Never-failing Mountain Springs with a daily flow of many million gallons of the purest Freestone water, besides Sulphur, Chalybeate and other Mineral Springs.

A climate that has no superior for all the year; malaria is unknown, and the nights are cool even in midsummer.

A Fertile Agricultural Country, where cotton, grains, grasses, fruits and vegetables yield abundant crops, and where fine Jerseys wade knee-deep in clover.

A population of 3,000, churches of all denominations, excellent schools, charming society.

A National Bank, Water Works, Fine Hotel, &c.

Steel Works, to include Furnaces, Rolling Mill, Rail Mill, Cotton Tie Mill, &c., and to employ 3,100 hands, under construction.

A Cotton-Seed Oil Mill and Fertilizer Factory under construction.

For particulars address GOLDSMITH B. WEST, General Manager JACKSONVILLE MINING & MANUFACTURING COMPANY, Tredegar (Present Postoffice, Jacksonville), Alabama.

*An Unequalled Field for  
Profitable Investment.*

# KIMBALL.

MARION COUNTY,

TENNESSEE.

## KIMBALL TOWN COMPANY.

**H. I. KIMBALL,**
**Vice-Prest. & Managing Director.**
**DIRECTORS.**

HON. LOGAN H. ROOTS, President of First National Bank, Little Rock.  
 CHARLES P. RICHARDSON, Capitalist, Chattanooga.  
 J. R. STEVENS, President First National Bank, Huntsville, Ala.  
 A. J. MORISON, Capitalist, London, England.  
 J. H. BRYANT, President Seattle Coal & Iron Co., New York.  
 GEO. COOK, President Hallet & Davis Piano Co., Boston, Mass.

HON. H. L. COCHRAN, Judge Probate Court, Fort Payne, Ala.  
 H. I. KIMBALL, Atlanta, Ga.

**OFFICERS.**

President, HON. LOGAN H. ROOTS.  
 Vice-President, C. P. RICHARDSON.  
 Second Vice-President and Managing Director, H. I. KIMBALL.  
 Treasurer, J. H. BRYANT.  
 Assistant Treasurer, ED. E. RICHARDSON.  
 Secretary W. E. DONALDSON.  
 Assistant Secretary, W. BROOKS COVELL.

**ATTORNEYS.**

W. E. DONALDSON, Kimball.  
 SHEPHERD, WATKINS & BATES, Chattanooga.

**ENGINEERS.**

Landscape Engineer, NATHAN G. BARRET.  
 Resident Engineer, W. J. KELLY.  
 Sewerage and Electrical Engineers, NIER, HARTFORD & MITCHELL.

Hon. SAM'L H. BUCK, Gen. Superintendent.

**OFFICES.**

Richardson Building, Chattanooga.  
 Union Trust Building, 80 Broadway, New York.  
 Company's Building, Kimball, Tenn.

**Kimball Offers**

Solid, practical inducements to manufacturers. First-class enterprises under good management will be guaranteed, one-half the cash required. Local taxes will be remitted for a term of years. Lowest freights and cheapest raw materials will be secured.

**Auxiliary Companies**

will be organized by the parent corporation for developing the wealth of the Sequachee Valley and for supplying the city with heat, light, water, power and transportation.

**A Mammoth Industrial Building**

will be erected by the Kimball Town Company, which will have power, light and heat, that will be supplied to manufacturers on the most liberal terms.

Ample provision made for religious and educational institutions.

**No Further Auction Sales**

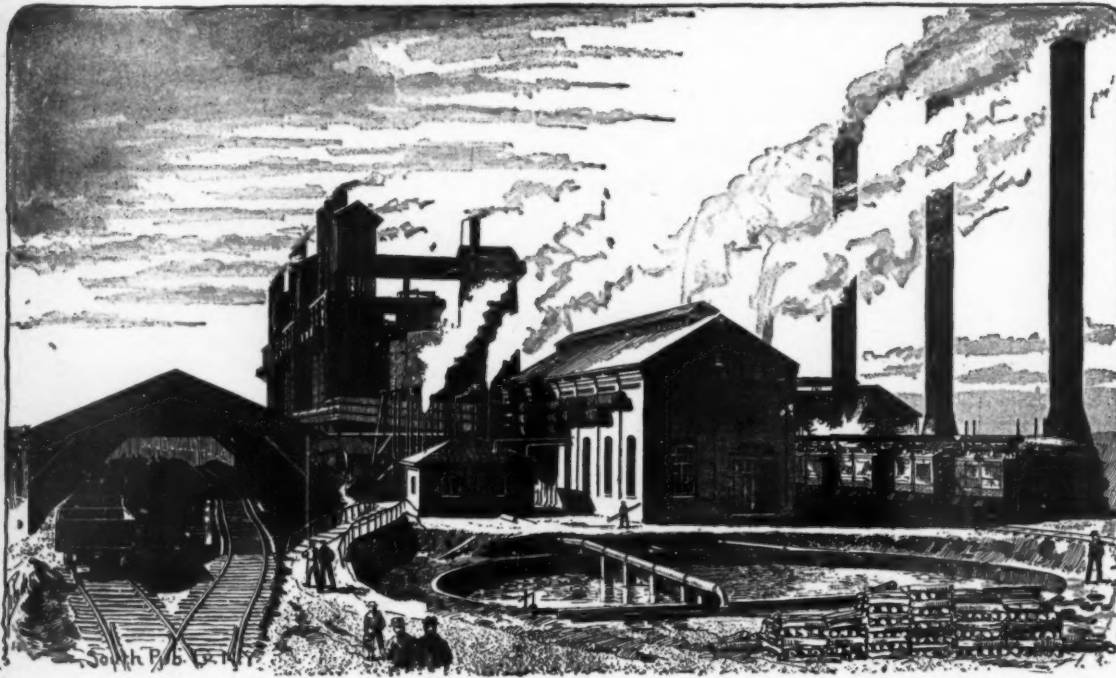
this year and no private sales of the corporation's lots except to those who will contract to build immediately on plans approved by the management.

ALL CORRESPONDENCE SHOULD BE ADDRESSED TO

H. I. KIMBALL, Managing Director, CHATTANOOGA, TENN.

# SHEFFIELD, ALA.

## THE SUPERB.



At the Headwaters of Deep Navigation on the Tennessee River, the Hudson of the South.

The Largest Producer of HIGH-GRADE Pig Iron of any City in the Entire Industrial South.

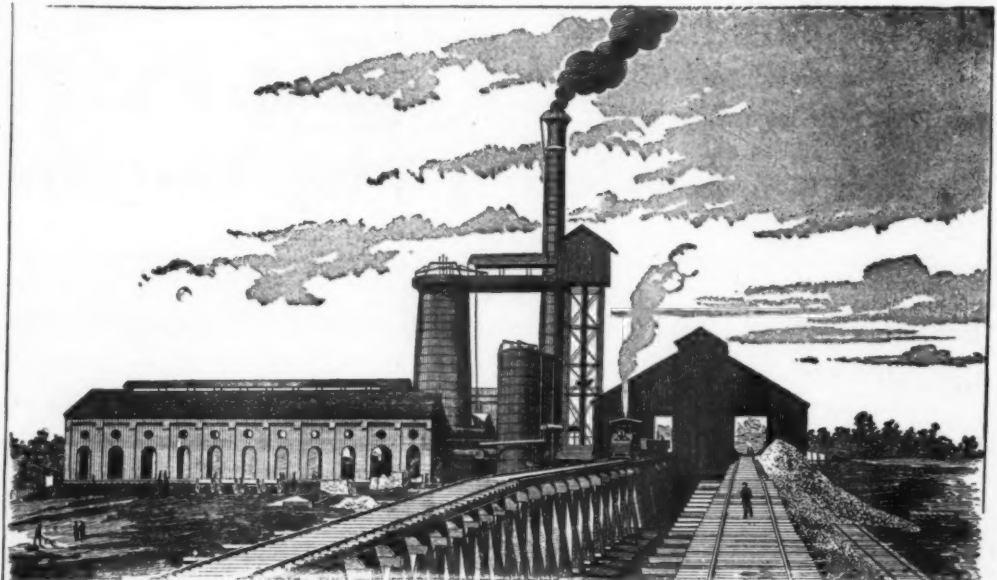
The only point in the South that has or can ship pig iron to the cities on the Mississippi, Missouri and Ohio rivers by boat or barge without rehandling. This last shipment of 5,000 tons of Pig Iron to Pittsburgh, Pa., by barge was made at a saving of \$2.65 per ton over what any iron-producing city of the South has done or can do to-day.

Five Large Blast Furnaces

Capacity 750 tons pig iron per day.

The following are among the corporate and private enterprises that belong to Sheffield:

The Sheffield Land, Iron & Coal Co., capital \$1,000,000.  
The Sheffield & Birmingham Coal, Iron & Railroad Co., capital \$1,000,000; the owners of three 150-ton blast furnaces.  
The Birm., Sheffield & Tenn. River Railway Co., capital \$5,000,000.  
The Hattie Ensley Furnace, capital \$200,000.  
The Lady Ensley Furnace Co., capital \$200,000.  
The Electric Light & Gas Fuel Works, \$50,000.  
The Sheffield Ice Co., capital \$25,000.  
The Sheffield Manufacturing & Constructing Co., \$30,000.  
The Sheffield Contracting Co., \$60,000.  
The Eureka Brick & Lumber Co., \$30,000.  
The Howard Brick Co.  
The Sheffield Bakery & Bottling Works.  
The Sheffield Mineral Paint Co., capital \$50,000.  
The Sheffield Agricultural Works, capital \$40,000.  
The Sheffield Cotton Compress Co., \$60,000.  
Millan Brothers, Steam Laundry.  
Enterprise Publishing Co.  
Water Works, already expended, \$30,000.  
Sheffield Street Railway Co., capital \$100,000.  
Cleveland Hotel Co., capital \$50,000.  
Sheffield Hotel Co., capital \$120,000.  
Bank of Commerce, capital \$150,000.  
East Sheffield Land Co., capital \$500,000.  
Hull & Keller's Fern Quarries.  
Mobile Real Estate Co., capital \$50,000.  
Sheffield Real Estate Co., capital \$50,000.  
Sheffield & Mobile Improvement Co., capital \$100,000.  
Sheffield Stove Works.  
Henderson Milling Co., capital \$100,000.  
Globe Iron & Brass Works, capital \$10,000.  
Standard Machine Shop & Foundry, capital \$50,000.  
Owen Pink Mixture Co., capital \$100,000.  
Bell Telephone & Telegraph Co.  
Foulds' Shoe Factory, capital \$20,000.  
Enterprise Wood Working Co., capital \$30,000.  
Buchanan Straw Goods Factory, \$25,000.  
The Sheffield Harness & Saddlery Co., capital \$20,000.  
Principal Shops of the Sheffield & Birmingham Railroad.  
Principal Shops Memphis & Charleston Railroad, now being built.



Aside from the foregoing the following are in course of construction and may be considered positive: Principal Shops of the Memphis & Charleston Railroad; Principal shops of the Nashville, Florence & Sheffield Division of the Louisville & Nashville Railroad. Reasonably certain to be secured in the near future are the following, in regard to which negotiations are pending: A Rolling Mill; Large Machine Shop; A Cotton Mill.

## ALABAMA'S IRON CITY.

The Superb Location at the head of navigation on the Tennessee River, commanding the outlet to immense fields of IRON ORE and COAL and magnificent tracts of the finest Timber. Has already attracted to the spot where three years ago in a cotton field her projectors set the stakes of a new city, capital and people, unequalled in amount and number, circumstances considered, by any of the so-called new cities of the South.

With eight Church Organizations, two Free Public Schools, Postoffice, Telegraph and Express offices and abundant facilities of transportation by river and rail. It has every advantage as a residence city that can be desired.

Good Water; Drainage Excellent; Health and Climate Unsurpassed. Free Public Schools and Churches. Splendid opening for men of push and energy. No better point for profitable investment. No "Old Fogey" element here.

### Sites for Manufacturing Enterprises

And for Free Public Schools and Churches

Donated by the Sheffield Land, Iron & Coal Company.

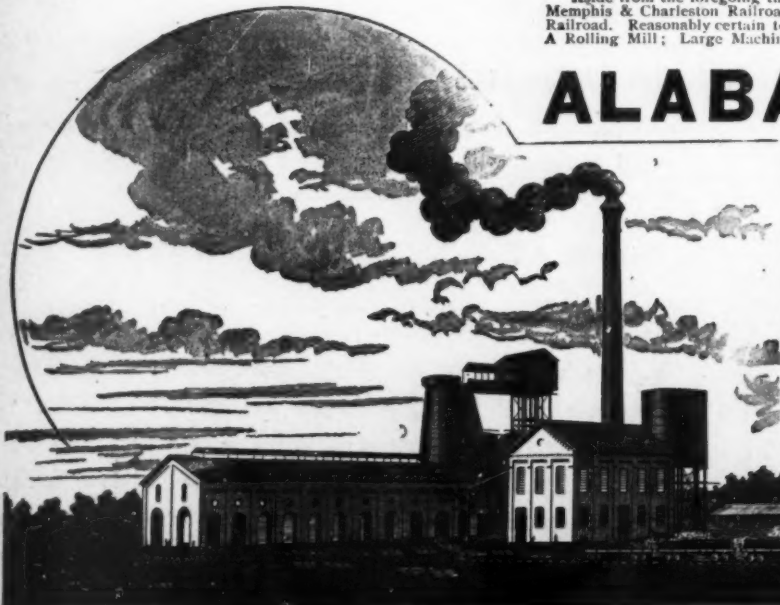
Printed information furnished on request. Correspondence solicited. Communications should be addressed

**W. L. CHAMBERS,**

Vice-President and Manager.

Sheffield Land, Iron & Coal Company,

SHEFFIELD, ALABAMA



# The Staunton Development Co.

## OF STAUNTON, VIRGINIA.

Authorized Capital \$2,000,000.

Shares \$100 par value each.

### OFFICERS

M. ERSKINE MILLER, President, Staunton, Va.

S. M. YOST, Vice-President, Staunton, Va.

W. P. TAMS, Treasurer, Staunton, Va.

W. J. PERRY, Secretary, Staunton, Va.

### DIRECTORS.

ISAAC WITZ, Staunton, Va.

B. F. EAKLE, Staunton, Va.

JOHN McQUAIDE, Staunton, Va.

ANDREW BOWLING, Staunton, Va.

S. M. YOST, Staunton, Va.

JED HOTCHKISS, Staunton, Va.

J. H. WAYT, Staunton, Va.

M. ERSKINE MILLER, Staunton, Va.

O. K. LAPHAM, Chicago, Ill.

H. H. FAY, Capitalist, 28 State Street,  
Boston, Mass.

W. L. FLEMING, Richmond, Va.

GEORGE H. HULL, President American  
Pig Iron Storage Warrant Company, 44  
Wall Street, New York.

# STAUNTON, VIRGINIA.

The Queen City of the Valley of Virginia.  
Present Population 12,000.

Situated in Augusta county at the crossing of the Baltimore & Ohio and Chesapeake & Ohio railroads and accessible to the great coal and coke fields, namely: Connellsville, by the Baltimore & Ohio; Pocahontas or Flat Top by the Norfolk & Western and Chesapeake & Ohio, and New River Coke Fields by the Chesapeake & Ohio.

### PROPERTY.

The lands acquired, aggregating 2,242 acres, more or less, are favorably situated within the city limits and adjoining the corporation lines, and it might be fairly said that about 240 acres are situated within the city of Staunton. The great bulk of the property lies between the Valley Railroad or Baltimore & Ohio Railroad and the Chesapeake & Ohio Railway, and is most admirably situated for railroad switches and side tracks to reach manufacturing enterprises. Several streams of good water run through the lands, affording abundant water supply for factories and fine drainage.

### CAPITAL STOCK.

The authorized capital is two million dollars. One million, two hundred thousand dollars of stock will now be issued,

of which \$204,800 has been disposed of, leaving \$800,000 of stock in the treasury, to be hereafter issued, if it should be deemed wise to do so.

Subscribers will bear in mind that with every two shares of stock they will be entitled to either a business or residence lot, to be determined by a drawing at a date to be hereafter designated.

### BOOKS OF SUBSCRIPTION NOW OPEN.

Staunton is within six hours' ride from Washington, seven of Baltimore, nine of Philadelphia and eleven of New York.

It has an excellent system of water works, paid fire department, electric light and gas companies, ice factory, street car line under construction, four newspapers, handsome opera house, commercial college and other important industries that contribute to the welfare of the city.

# GLASGOW, —————→ ←————— VIRGINIA.

The Grandest Enterprise of the New South.

## THE LOCATION

is naturally fine and adapted to the construction of a large city.

## THE CLIMATE

guarantees immunity against epidemics.

## WATER-POWER

is practically unlimited.

## IRON ORE

in abundance and of fine quality.

## LIMESTONE

near at hand and plentiful.

## CEMENT

extensive deposits of good quality.

## GLASS SANDS

in large quantities and of high grade.

## TIMBER

of various kinds and abundant.

## FUEL SUPPLY

Pocahontas and New River Coke in convenient proximity.

## TRANSPORTATION FACILITIES

Two trunk lines—Norfolk & Western, with its Shenandoah Valley Railroad connection, and the Chesapeake & Ohio—giving direct communication with fields of finest Coaking and Steam Coals in the country, with deep water transportation with Norfolk & Newport News, with the West via Cincinnati.

## THE PITTSBURG & VIRGINIA R. R.

to be built in the near future will go through the Blue Ridge mountains at this point.

## FACILITIES FOR MANUFACTURING

unexcelled by those offered by any locality in the South.

## ADDRESS

# ROCKBRIDGE COMPANY,

Ex-Gov. FITZHUGH LEE,

President

Hon. WM. A. ANDERSON,

Vice-President.

M. M. MARTIN,

General Manager.

# DENISON, TEXAS.

The "QUEEN" City of the Southwest,

— AND —

\* GATEWAY \*

— TO THE —

## GREAT STATE OF TEXAS.

The City of Denison presents the Finest Opportunity of any City in the Southwest for the Investment of Capital in Large or Small Sums.

**D**ENISON is situated in Northeastern Texas near inexhaustible beds of coal and iron, surrounded by the finest fruit lands in the world, and adjoining the INDIAN TERRITORY, which, in the nature of things, must in a few years be opened to settlement.

The growth of Denison has been a natural one, the city having reached its present size—16,800 population—in sixteen years.

The city is regularly and beautifully laid out. Railroads run from it in four different directions. The Missouri, Kansas & Texas alone does an enormous business, having 54 miles of switch track in Denison, employing 500 skilled workmen and disbursing \$150,000 a month in wages.

The first public school in the State was established here, and the city's elegant two and three story brick school buildings, surrounded by attractive grounds, are well arranged for the use of the white and colored children. Its schools are in session ten months in each year.

We have sixteen church societies, seven of which are colored.

The city is well supplied with pure water from its numerous private wells—dug in the ground—and its first-class system of water works, giving the citizens ample protection against serious loss by fire, and enabling the insurance companies to rate the city first class as to fire hazard. Rate of taxation low.

The city has four miles of street railway, and a six-mile motor railway; has two electric-light companies and a telephone plant. It has an influential New England colony, and counts among its citizens people from every State in the Union.

A large hotel, to cost \$125,000, is to be erected here this year, and a large steel plant with \$2,000,000 of capital is contemplated.

30,000 bales of cotton were shipped from Denison in 1889. 200,000 baskets of strawber-

ries and several carloads of peaches and other fruits have been shipped to market this season.

The Denison Canning Co., capitalized at \$100,000, has one of the largest canning factories in the country.

A cotton mill company with a capital of \$500,000 is building a 25,000-spindle cotton mill.

The climate of Denison is magnificent, situated nearly 800 feet above sea level. In summer it is warm, but far cooler than many cities farther North, and from 6 P. M. until after sunrise it is always cool. The city is very healthy.

The capacity of the ice factory has been increased from a daily output of 15 tons to 30.

The Denison Land & Investment Co. is prepared to give every reasonable encouragement to manufacturers, and solicit correspondence from such manufacturers as contemplate coming into the Southwest to locate.

Address all communications to

## THE DENISON LAND & INVESTMENT COMPANY, DENISON, TEXAS.

Paid-Up Capital, - - - - - \$1,200,000.

### OFFICERS:

W. P. RICE, President.

MILTON H. FRENCH, Vice-President.

B. J. DERBY, General Manager.

ARTHUR L. BERRY, Secretary and Treasurer.

### DIRECTORS:

W. P. RICE,  
J. M. FORD,  
SAM STAR,

Kansas City, Mo.  
Kansas City, Mo.  
Denison, Tex.

B. J. DERBY, Burlington, Vermont.  
ARTHUR L. BERRY, Denison, Tex.  
M. V. B. CHASE, Augusta, Maine.

MILTON H. FRENCH, Thomaston, Maine.  
B. C. MURRAY, Denison, Texas.  
JOS. B. LINCOLN, Boston, Mass.

# WAYNESBORO, VA.

## THE WAYNESBORO COMPANY.

### LOCATION

In the famed Shenandoah Valley. Perfect for every class of business and residence.

### CLIMATE AND HEALTH

All that could be desired. Free from rigor of North and enervation of the South. No epidemics. No malaria.

### ORES

Iron in inexhaustible quantity and fine quality. Manganese—largest mine in America near at hand, and every evidence of much undeveloped, making this the center of the manganese belt of the country.

### LIMESTONE

In massive beds close at hand and of best quality.

### TIMBER

Of every species and very abundant. Tan bark in large quantities.

### FUEL

Pocahuntas and New River coal and coke by short hauls.

### WATER SUPPLY

Unsurpassed. Pure freestone. Mineral Waters adjacent.

### HOTEL

To have every modern improvement and appointment and to cost \$25,000, will be let to contract within ten days.

### TRANSPORTATION

Two competing trunk lines—Norfolk & Western system to all points North and South, the Chesapeake & Ohio to the great West and deep water at Norfolk and Newport News—affording direct communication with the three great coking fields of America. A third railroad to be built, giving facilities over the B. & O. System.

### MANUFACTURING FACILITIES

Unexcelled by any locality in the South for profitable establishment of furnaces, steel plants, rolling mills, foundries, cotton mills, woolen mills, paper mills,eries, &c. Raw material for such industries abundant.

Special Inducements Offered to Parties Wishing to Locate Plants.

M. ERSKINE MILLER,

President.

T. H. ANTRIM,

Vice-President.

J. F. TEMPLETON,

Secretary and Treasurer.

# GRAHAM, VA.

—\* Tazewell County. \*

## THE FAVORED SECTION.

### *The Graham Land & Improvement Company.*

#### OFFICERS.

A. C. DENNISTON, - - - - - President.  
EDWARD ILSLEY, - - - - - Vice-President.  
E. J. COLLINS, - - - - - Secretary and Treasurer.

#### DIRECTORS.

A. J. MAY, Tazewell C. H., Va. THOS. GRAHAM, Philadelphia, Pa.  
C. M. CLARK, Philadelphia, Pa. J. B. GREEVER, Graham, Va.  
J. D. SERGEANT, Philadelphia, Pa. J. H. DINGEE, Philadelphia, Pa.  
A. C. DENNISTON, Philadelphia, Pa.

**R. K. WRIGHT, JR., Agent, Graham, Va.**

The Graham Land & Improvement Company has purchased about 900 acres of land, including the old town of Graham, at the junction of the Clinch Valley & Ohio extension of the Norfolk & Western railroad, in Tazewell county, Va., and has improved the property by laying it out in lots and streets. Several of the streets have been graded and macadamized. The work of macadamizing is being continued with great activity.

The land is so situated, being at the junction of two important branches of the Norfolk & Western Railroad, with the Bluestone river running through it, and in close proximity to the Pocahontas coal fields—the finest coking coal in the world—and the iron ore deposits of the Clinch Valley, that it will in a short period become an important iron manufacturing center as well as a distributing point for the entire coal field.

The Clinch Valley & Ohio extension of the Norfolk & Western Railroad runs through a section of country heavily covered with popular, white and chestnut oak timber, and it is believed that Graham, at the junction of these two branches, is a most desirable location for the establishment of saw mills, tanneries, pulp mills and other woodworking establishments.

The company proposes to donate sites to all worthy manufacturing enterprises, and stands ready to take a limited amount of their stock.

#### The Following Desirable Industries have been Already Secured:

• The Graham Furnace Company, with a capital of \$250,000, has under construction an iron furnace, dimensions 16x70 feet, with a capacity of about 100 tons per day, and expects to be in blast by October.

The Virginia Lumber Company, with a capital of \$50,000, are erecting their buildings and will be in operation by the 1st of July.

Arrangements are also being made with parties who propose building at once a large general supply store and warehouse, building to cost about \$10,000, and having a working capital of not less than \$50,000.

The Graham Transparent Ice Company has been organized with a capital of \$50,000. Part of the machinery is now on the ground.

A large furniture factory has been organized with a capital of \$50,000.

Mr. Thomas B. Graham has secured a site on which he will erect a flouring mill with a capacity of thirty-five barrels, and expects to be in operation within sixty days.

The Graham Land & Improvement Company have made arrangements to supply the new town with water. The capacity may be extended to 2,500,000 gallons.

The Furnace Company has contracted to put in an electric-light plant for the purpose of lighting up their grounds, the Graham Inn and the commercial part of the city.

Work has been commenced by the Norfolk & Western Railroad Company on the building of a grand Union Passenger Depot at the junction and terminus of the Clinch Valley division, New River division and Ohio extension of the Norfolk & Western Railroad.

The Graham Land & Improvement Company are now building a fine hotel, which they hope to have ready for occupation by October 1st. The hotel will be heated by steam and lighted by electricity, and it is the aim of the company to make it one of the most attractive hotels in Virginia.

The Graham Publishing Company has been formed with a capital of \$12,000, all of which is subscribed.

#### Projected Enterprises:

Woolen mill, \$50,000.

Flour mill, 75 barrels capacity, \$35,000.

A muck bar rolling mill company with a large capital.

On the 10th of April, 1890, the Graham Land & Improvement Company sold at auction \$165,000 worth of business and resident lots. During the same day the private sales were large, making a total of \$210,000.

Lots are comparatively very cheap at current prices.

Capital stock \$250,000, one hundred dollars per share. Present worth one hundred and fifty dollars per share and none to be had.

**For Immediate Use at**

The Lots and Lands of the Basic City Co. completely encompass the crossing of the **Two Great Coal-Carrying Lines of Virginia**, viz: the Chesapeake & Ohio Railroad and the Shenandoah Valley Railroad.

**LOCATION.**

In the brown iron-ore district, at the crossing of the two great coal-carrying lines of Virginia, viz: the Chesapeake & Ohio and the Shenandoah Valley Railways.

**IRON ORE.**

**Brown Hematite Ore** inexhaustible in quantity and excellent in quality.

## LIMESTONE

In close proximity and abundant.

## WATER

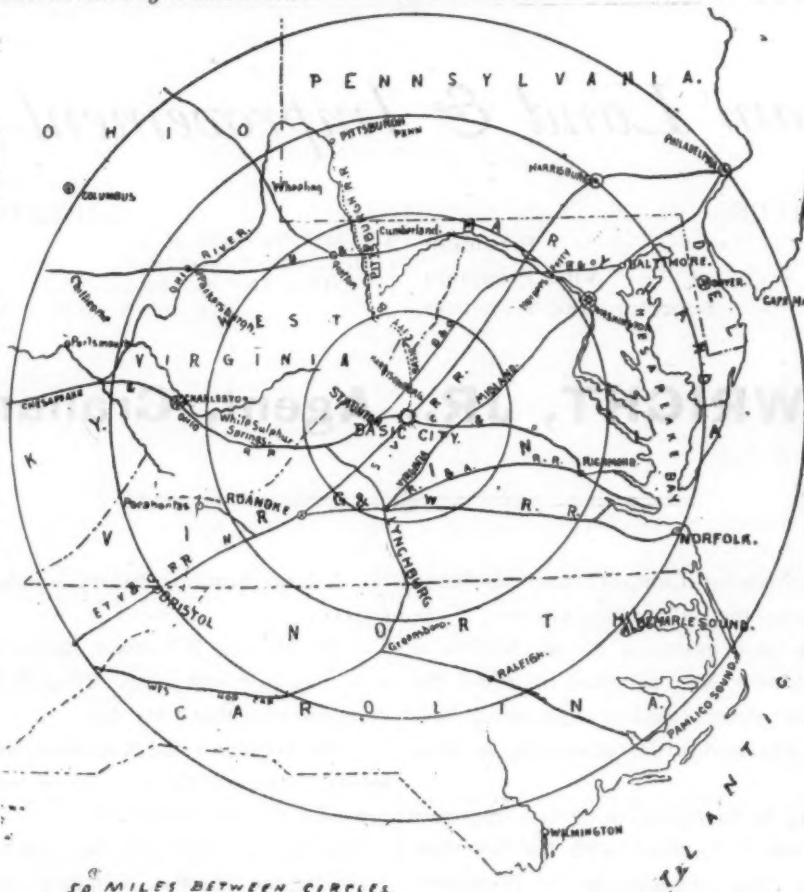
Pure free-stone. The South branch of the Shenandoah River flows through the property. A magnificent Lithia Spring and other medicinal waters.

**COUNTRY**

Surrounding and tributary equal to any in the Shenandoah Valley in beauty, fertility and productivity.

## TIMBER

Of almost every variety and plentiful.



## HEALTHFULNESS.

Unsurpassed. Elevation 1,300 feet, and natural drainage splendid.

## TRANSPORTATION.

At present by two independent railways, to the ocean, the West, and Northwest and the South, and a third, the Basic City, West Virginia & Pittsburg Railroad soon to be built, connecting with the Baltimore & Ohio Railroad.

## INDUSTRIES.

Already secured a 100-ton Iron Furnace, Car Works, Paper Mill, Hardware Factory, two Blind, Sash and Building Material Factories, two Brick and Tile Factories, and others are being negotiated for. A large and handsome Hotel in course of construction, 259 feet long, with 85 rooms. The industries will employ at least 900 workmen.

Many new buildings are going up.

Work is being pushed on plants for the industries just enumerated, and they will be in operation in a few months.

A Normal College with accommodations for 200 students.

50 MILES BETWEEN CIRCLES.

FOR PARTICULARS AS TO THE SPECIAL ADVANTAGES OF BASIC CITY ADDRESS

**SAMUEL FORRER, President, or J. M. QUARLES, General Manager,**  
Basic City Mining, Manufacturing & Land Company, Basic City, Va.

Information as to the financial standing and resources of this Company may be had by addressing the AUGUSTA NATIONAL BANK or the NATIONAL VALLEY BANK, of Staunton, Va.

# MIDDLESBOROUGH,

## KENTUCKY.

### There Are Now Under Contract:

A Basic Steel and Iron Plant, daily capacity 300 tons, to cost \$1,000,000 and to employ about 1,000 hands.

An Iron Rod Mill; A Sheet Mill; A Nail Mill.

Two Coke Iron Furnaces, 150 tons daily capacity each, and one Charcoal Furnace.

A \$500,000 Tannery—the largest in the world

Fourteen Coal Mining Enterprises, to employ about \$2,000,000 capital.

A Dozen Wood-Working Enterprises.

A Twelve-Mile Belt Railroad.

Tile Works, Fire and Building Brick Works, and a dozen or more other enterprises.

## \$18,500,000

### Already Invested in the Development of Middlesborough.

Since the above announcement was made, Mr. A. A. Arthur, the manager of the company, has returned from London, where he secured an additional **\$8,000,000** to be invested in Middlesborough enterprises.

The capital of the Water Works Company has been increased from \$200,000 to \$750,000.

The capital of the Electric Street Railway Company has been enlarged to \$250,000 and the proposed lines extended so as to cover all the principal streets.

The length of the Belt Railroad has been increased to 20 miles, and the whole line will be in operation in a few weeks.

The money has also been secured for an extension of the Knoxville, Cumberland Gap & Louisville Railroad through the tunnel into Middlesborough. There is now under negotiation a lease of railway systems, of which the Knoxville, Cumberland Gap & Louisville road will form a link, giving Middlesborough trunk line connection with Chicago, Cincinnati, Louisville, Atlanta, Charleston, Savannah and Pensacola. Arrangements are also being made for direct connection between Cumberland Gap and some point on the Atlantic coast, and following this will be the establishment of a line of steamers between that point and Liverpool.

\$400,000 has been secured for the Middlesborough Coal and Iron Bank, which is now a regular department of the American Association's business.

The entire capital of the Cumberland Gap Park Company, \$1,800,000, has been secured in London. Contracts

have been let for the magnificent hotel, casino, sanitarium and other buildings.

The Middlesborough Hotel Company's capital has been increased. The company is now making an addition to its present building at a cost of \$25,000. Contract has been let for new hotel with ball room, casino and all the attractions and appointments of a first-class house, to cost \$75,000.

Contract has just been made for a new office building for the American Association, to be of stone and to cost \$35,000. A new office building will also be put up for the Middlesborough Town Company, the material to be stone and brick.

The Ousiotto Building Company, with a capital of \$250,000; the Manchester Building Company \$200,000; the St. Helen's Building Company \$200,000, and the New South Building and Loan Company with \$100,000, have been organized.

The eminent engineer, Mr. George E. Waring, Jr., of Newport, R. I., has been given the superintendency of contracts for a system of sewerage for Middlesborough and for the continuation of the work of straightening the stream that flows through Middlesborough. These improvements will cost \$150,000.

Mr. Arthur completed plans for a residence town at Cumberland Gap in connection with the American Association's developments. The amount secured for this purpose was \$750,000. The laying out of these lands has been given to Mr. George E. Waring, Jr.

The Watts London Iron and Steel Syndicate will increase its capital to £1,500,000 (\$7,500,000) and build other industries in addition to those already announced. Of the two furnaces now building the first will blow in early next October, and the second in November. Two other furnaces will be let to contract January 1.

Parties from Manchester, London and Liverpool will attend the May auction sales at Middlesborough, and will come with \$500,000 to invest in Middlesborough lots. Other parties are coming to form subsidiary companies to operate at Middlesborough in addition to those enumerated above.

The Northern American Association has been formed with a capital of \$3,750,000 to develop 200,000 acres of Kentucky coal lands; also the Anglo-American Association, with capital of \$2,000,000, to develop 80,000 acres of Kentucky coal lands, and the Western American Association, with capital of \$3,000,000, to develop 150,000 acres of coal and iron lands in Tennessee.

Counting the new enterprises arranged for on this trip and the additions to the capital of such as had been already announced, Mr. Arthur has secured nearly \$8,000,000 to be invested at Cumberland Gap. This is **\$8,000,000 of new money to be added to the millions already invested.**

Thus the Amount of Capital now Invested in the Development of Middlesborough reaches

## \$26,500,000.

Besides this, the three coal and iron companies mentioned above, whose aggregate capital is **\$8,750,000**, are closely allied to the American Association and the Middlesborough Town Company, and their developments will be made to contribute to the growth of Middlesborough.

The history of the world does not show an instance of

such amazing development in so short a time, and on so sure and solid and permanent a foundation.

A year ago the population of the present site of Middlesborough did not exceed 50; to-day the town has a population exceeding 5,000. It is a conservative estimate to say that in three years 50,000 people will be living here.

## MIDDLESBOROUGH TOWN CO., Middlesborough, Kv.

# LAREDO, TEXAS.

## The Gateway to and from the Republic of Mexico

Is nature's grand outlet for the manufactured products of the United States and nature's grand inlet for the mineral and raw products of Mexico. For the cheap delivery of the raw material necessary for the successful operation of iron and all textile industries, Laredo holds a position unsurpassed, every material being found in the immediate neighborhood. The very foundations of the city are upon inexhaustible coal beds, now being rapidly developed. A glance at the map will show that there are no large cities within hundreds of miles of Laredo, and her favorable geographical location, being from 600 to 800 miles nearer the trade centers of both republics than any other frontier port, stamps her as the commercial entrepot between the United States and Mexico.

Laredo is becoming a most important manufacturing point,

having the following industries already located and in operation:

Woolen Mill.  
Wool Scouring Mill.  
Tannery.  
Boot and Shoe Factory.  
Ore Concentrating Works.  
Ore Sampling Works.  
Cotton Gin and Milling Works.  
Mineral Water Bottling Works.  
Four Ice Factories.  
General Car and Machine Shops of the Mexican National Railroad, the largest west of the Mississippi.  
Three Large Brick-yards and several smaller establishments.  
A large Cotton Factory is now being erected by a New England syndicate.

Laredo Offers to the Capitalist, Merchant, Manufacturer and Mechanic Opportunities for Investment, Business or Manufacturing such as no other City in the Southwest can offer.

The city is well supplied with railroad facilities and hotel accommodations, has Holly system of water works, two electric-light companies and one of the best equipped electric motor street railways in the United States.

### Population.

1886.....	3,000
1888.....	6,000
1889.....	12,000

### Imports and Exports.

1888.....	\$ 3,000,000
1889.....	10,543,000

*For Maps Pamphlets, Bird's Eye Views and Reliable Information of Laredo, address*

# THE LAREDO IMPROVEMENT CO.



For particulars as to time of payment, &c., address the company at Greensboro, N. C.

# \* LURAY, \* Virginia. \*

2,500 Acres Town Lands,

8,000 Acres Mineral Lands,

Luray Inn and Caverns.

## The Valley Land & Improvement Company,

Capital Stock, \$2,000,000.

Luray, Page County, Va.

### DIRECTORS.

D. F. KAGEY, Luray, Va., President. G. C. MARSHALL, Uniontown, Pa., Vice-President and General Manager.  
T. E. McCORKLE, Lexington, Va. DR. W. L. HUDSON, Luray, Va. G. K. MULLIN, Philadelphia, Pa.  
DR. A. M. HENKEL, Staunton, Va. J. W. MILLER, Mount Jackson, Va.

### EXECUTIVE COMMITTEE.

D. F. KAGEY, G. C. MARSHALL, T. E. McCORKLE, G. K. MULLIN.  
Secretary, T. E. McCORKLE. Treasurer, H. M. KERR, Kagey & Co.'s Bank. Attorney, T. E. McCORKLE.  
Associate Counsel, H. J. SMOOT, Manager of Inn and Caverns, G. K. MULLIN.  
Bankers, D. F. KAGEY & CO., Luray, Va.

### CHARTER, PROPERTIES, &c.

The Valley Land & Improvement Company has been organized under the most liberal charter ever granted by the State of Virginia.

2,500 acres for manufacturing purposes and building sites. These lands are in and around the hotel, caverns and town of Luray on an undulating plateau, protected on either side by the Massanutten Mountain and the Blue Ridge Mountains.

8,000 acres of the best mineral properties in Virginia, consisting of iron, manganese and other valuable minerals which have stood the test of examination by the ablest geologists of the country.

The company owns the celebrated Luray Inn and the Luray Caverns.

Page County stands at the head of the list as having a greater variety of minerals and richer than any other county so far as known in the State.

In addition we have the finest kind and a great variety of virgin timber and fire-clays, slates, beautiful marbles, ochres, umber and mineral paints.

### LOCATION, RAILROADS, &c.

Luray, now a town of about 2,500, is the county seat of Page county, has five churches, splendid schools, fine stores, three newspapers, flouring mill, cigar factory, &c.

The town is on the Shenandoah Valley Railroad, of the Norfolk & Western system, and is the best location in Virginia, four hours from tidewater.

Two new lines projected connecting closely with Baltimore and Washington and insuring cheap freights.

Luray has largest tannery in the world, annual pay roll over \$350,000.

Inexhaustible water supply, agricultural resources, charming climate.

Fine natural sites for furnaces and manufactories of all kinds fronting the railroad, reserved by the company, which by donations of land and in every possible way will promote Luray's manufacturing interests.

### LOTS, CAPITAL STOCK, &c.

Capital stock \$2,000,000, shares \$100.

One million of stock reserved in treasury for betterment.

One million now offered for sale.

Books open at the bank of D. F. Kagey & Co., Luray, Va.

The company reserves the right to close the books any time before the full amount of the one million is sold.

Twenty per cent. must be paid on subscription, 20 per cent in 30 days, the balance equally in six and twelve months.

When half of the subscription is paid in subscribers have the right to use their stock in payment on lot purchases.

The company feels safe in saying that with the magnificent property in hand, the Inn and Caverns, it will be enabled when thoroughly under way to pay four or five per cent. dividend on the stock sold, independent of lots and mineral lands.

The company already owns an electric plant which will be considerably enlarged.

Complete system of water works and many other improvements projected. Investors are referred to Mr. J. W. Wheeler, Cashier Drivers and Mechanics' National Bank, Baltimore, Md., for full information. H. C. Turnbull, Jr., real estate agent, 52 Lexington street, will receive subscriptions of stock in Baltimore.

The fullest investigation invited.

THE VALLEY LAND & IMPROVEMENT COMPANY, LURAY, PAGE COUNTY, VA.

**FOR SUCH INDUSTRIES AS**

COTTON MILLS,  
WOOLEN MILLS,  
TANNERIES,  
BOOT AND SHOE FACTORIES,  
HARNESS AND SADDLE FACTORIES,  
FURNITURE FACTORIES,  
CARRIAGE AND WAGON FACTORIES,  
FLOUR MILLS,  
GRIST MILLS,  
CRACKER FACTORIES,  
CANNING FACTORIES,  
COTTON-SEED OIL MILLS,

**DALLAS, TEX.**

Is equal to any locality  
in America in its  
combined advantages of  
**CHEAP AND  
ABUNDANT  
RAW MATERIAL  
READY,  
PROFITABLE  
AND EXPANDING  
MARKET.**  
DISTRIBUTING FACILITIES,  
ELIGIBLE SITES,  
GOOD CLIMATE.

Any worthy industries  
will be aided liberally by the

**DALLAS MANUFACTURERS' AID & IMPROVEMENT CO.**

711 Main Street, Dallas, Texas.

**BEDFORD CITY LAND & IMPROVEMENT CO.****BEDFORD CITY, <sup>LAT</sup> LIBERTY, VA.**

By special act of the Legislature of Virginia the Bedford City Land & Improvement Company was chartered with the most liberal grants of power. The company has been fully organized.

**AUTHORIZED CAPITAL - - - \$1,000,000.**

**JAS. M. BERRY**, (of Berry Bros., Tobaccoists,) **President.**  
**R. B. CLAYTOR**, (of R. B. Claytor & Co., Merchants) **Vice-President.**  
**J. LAWRENCE CAMPBELL**, (of Burks & Campbell, Attorneys-at-Law,) **Secretary.**  
**S. M. BOLLING**, (of Bolling, Wright & Co., Tobaccoists,) **Treasurer.**

**BOARD OF DIRECTORS:**

<b>MARTIN F. BURKS,</b>	<b>R. B. CLAYTOR,</b>	<b>J. M. BERRY,</b>
<b>C. W. WHARTON,</b>	<b>J. LAWRENCE CAMPBELL,</b>	<b>T. D. BERRY,</b>
<b>S. M. BOLLING,</b>	<b>SAMUEL GRIFFIN,</b>	<b>W. W. BERRY,</b>
<b>DR. W. W. SMITH</b> , President of Randolph-Macon College,		
<b>REV. A. E. DICKINSON</b> , D. D., Editor of the Religious Herald, Richmond, Va.		

The Company is solvent and its business is conducted on the soundest business principles. It is not engaged in wild booming.

Only \$300,000 worth of stock has been offered to the public.

The Company owns nearly 800 acres, containing the best residence, business and manufacturing sites. The stock which is offered is in ten-dollar shares, payable \$2 per share cash when subscribed, \$1 each thirty days thereafter, until \$5 is paid on the share. For this the Company issues paid up non-assessable certificates of stock. The money thus raised is to be applied to the improvement of the property.

Bedford City is not an old field, but a thrifty, growing community, in the most healthful and beautiful mountain region in Virginia.

Mean yearly temperature 53.7; Winter, 44; Summer, 78.

A few miles from the peaks of Otter, it would be difficult to exaggerate the exquisite beauty of the scenery and the tonic quality of the atmosphere. Within a days ride of Boston, New York, Philadelphia, and a few hours from Baltimore, it presents unusual advantages for health seekers.

The present population is nearly 4,000. There are 30 manufacturing enterprises, large and small, in operation, and 10 new secured with capital provided, which go into work as soon as buildings can be put up and the plants erected.

On the Company's lands are the elegant Randolph-Macon Academy, the largest school for boys in the South, and the Jeter Memorial Institute for young ladies, which will be commenced within six months. The Norfolk & Western R. R. Co. will build a fine passenger depot near a first-class hotel, to cost \$75,000. Poindexter, the architect of the Academy, is now preparing plans.

The Bedford City Company offers the most beautiful residence sites in the western part of the town, in which direction it is rapidly building.

This is the safest and best investment offered anywhere in Virginia. It is a golden opportunity to get property in a splendid section, as rich in minerals as it is healthful and magnificent in the grandeur of its mountains.

A new railroad from Glasgow to Atlanta will be built. Its construction will begin this year. For further particulars address

**J. M. BERRY**, President of Bedford City Land & Improvement Co., Bedford City, Va.

**REVERSIBLE STEEL & WOOD TRACK HAY CARRIERS**

TRADE MARK. A complete outfit. Easy to put up, always reliable and fully warranted to meet the wants of any farmer.

**MYERS' FORCE AND LIFT PUMPS**

Simple, durable, powerful, easy to operate never affected by frost. Patent GLASS VALVE, will never corrode. Ask your dealer for our goods. Write for catalogue. F. E. MYERS & BRO. ASHLAND, O.

GREATEST IMPROVEMENT OF THE AGE

**Maslin's Patent Steam Pump.**  
Pat. Feb. 12, & Dec. 2, '92.

Cheapest and Best Automatic Steam Vacuum Pump. Handling DIRTY and GRITTY LIQUIDS without Wear, Oil or Care. Simple, Economical, Efficient & Durable. Pumping Plants for Contractors, Irrigation, Water Works, Railroads, Mining & General Hydraulic Purposes. Write or call for Circulars. JOHN MASLIN & SON, SOLE MANUFACTURERS, 155-167 1st St., Jersey City, N. J.

**S. E. CRAWFORD,**  
NORWALK, OHIO.

MANUFACTURER OF  
**Rubber Bucket Chain**  
And Wood Force Pump Supplies.

Correspondence Solicited.

**THE COOK WELL CO.**  
ST. LOUIS, MO.

CONTRACTS TAKEN FOR FURNISHING  
**WATER SUPPLY**  
COOKS' & WELLS.

12 YEARS EXPERIENCE IN WELL SINKING FOR WATER WORKS, RAILROADS, FACTORIES, BREWERIES ETC. ARTESIAN WELL PUMPS AND TUBE WELL SUPPLIES. SEND FOR CATALOGUE OF PATENT WELL MATERIAL.

**THE BUFFALO STEAM PUMP CO.**  
BUFFALO, N. Y. MANUFACTURERS OF  
**STEAM PUMPS**  
FOR ALL DUTIES.

**PUMPS**

We manufacture direct acting Duplex and Crank and Fly Wheel Steam Pumps for all services. Brass Founders and manufacturers of Brass and Iron Body goods. Straightway valves, etc. Iron Pipe and Fittings and Mill Supplies. Boiler Feed Pumps a specialty. Address

**THE JOHN H. MCGOWAN CO.**  
42, 44, 46 Central Ave., CINCINNATI, O. | Branch House, 1425 E. Main St., RICHMOND, VA.

**HYDRAULIC JACKS.**  
BEST IMPROVEMENTS. MOST STYLES.

Hydraulic Presses, Hydraulic Pumps, Valves & Fittings,  
Hydraulic Transfer Jacks for Removing Locomotive Drivers and Trucks.

**LEVER PUNCHES AND SHEARS.**

**WATSON & STILLMAN**  
204, 206, 208 & 210 E. 43d Street, New York.

**OIL WELL SUPPLY CO., LIMITED**  
82 FULTON ST., NEW YORK.

Also at 91 Water St., Pittsburgh, Pa.  
Manufacture and sell every article, tool or appliance needed at

**ARTESIAN WELLS**  
Either for Oil, Gas or Water.

**BOILERS, ENGINES, TUBING, CORDAGE, DRILLING TOOLS.**

Brass and Iron  
Goods & Supplies.

For Natural or Artificial Gas.

Price lists on application.



**COMPLETE STEAM PUMP**  
10 SIZES FROM \$7 TO \$75  
FOR WATER SUPPLY TANKS,  
FIRE PUMPS, ETC.

**VAN DUZEN & TIFT**  
SOLE MAKERS  
CINCINNATI, O.

WRITE FOR PRICES AND DESCRIPTIVE CIRCULARS

If you want the BEST, MOST EFFICIENT and DURABLE

**CENTRIFUGAL PUMP**

IN THE MARKET, REMEMBER THAT THE Original Baldwinsville Centrifugal Pumps ARE MANUFACTURED ONLY BY BOGGS & CLARKE, - - SYRACUSE N. Y. Write for Catalogue and Prices.

**DEAN BROS' STEAM PUMP WORKS.**

BOILER FEEDER BREWERS AIR PUMP FIRE PUMP DUPLEX PUMP

PUMPING MACHINERY FOR ALL PURPOSES. **INDIANAPOLIS, IND.** SEND FOR CATALOGUE AND PRICES.

**BLAKESLEE MFG. CO.**  
DU QUOIN ILL.  
SEND FOR CATALOGUE

**STEAM PUMPS.**

We have just issued a new illustrated catalogue of our Steam & Jet Pumps. A copy will be mailed free on application.

**THE LAIDLAW & DUNN CO.**

STANDARD DUPLEX PUMP AND BOILER FEEDER. STANDARD COMPOUND STEAM PUMP. STANDARD DUPLEX STEAM PUMP. HERO BOILER FEEDER.

PUMPS OF EVERY DESCRIPTION. CINCINNATI, O. SEND FOR CIRCULAR.

**GEO. F. BLAKE MFG. CO.**  
BUILDERS OF STEAM AND POWER

**Pumping Machinery**

111 Federal Street, Boston.  
95 and 97 Liberty St., N. Y., 535 Arch St., Philadelphia.

**The Baldwinsville Centrifugal Pump.**  
OLDEST, BEST AND LATEST IMPROVED.

Especially adapted for contractors' use, Pumping Coffin Dams, Sewers, Sand-Pumping, etc. Irrigating Plants a Specialty. Address for catalogue, IRVIN VAN WIE, 48 & 50 West St., Syracuse, N. Y. Established 1861. Removed to Syracuse 1881.

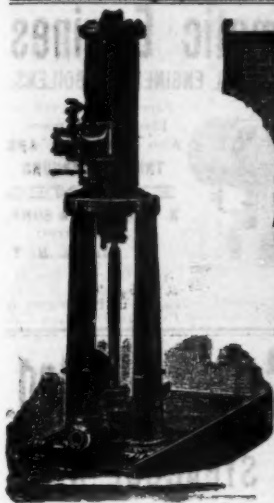
**The Improved Smith & Vaile**  
SINGLE, DUPLEX AND COMPOUND

**Steam Pumps**  
FOR EVERY DUTY.

**Water-Works Machinery.**

**The SMITH & VAILE CO.**  
DAYTON, OHIO, and NEW YORK,  
119 LIBERTY STREET.

EASTERN AND SOUTHERN AGENTS:  
THOS. K. CAREY & BROS., 26 Light Street, - - BALTIMORE, MD.  
O. W. STORER, 140 North Third Street, - - PHILADELPHIA, PA.  
D. A. TOMPKINS CO., - - CHARLOTTE, N. C., and ATLANTA, GA.



ARTESIAN WELL PUMPS.



PUMPS FOR  
BOILER-FEEDING,  
MINES,  
REFINERIES,  
BREWERIES,  
TANNERIES,  
IRRIGATING,  
FIRE PURPOSES,  
RAILROADS and  
FILLING TANKS,  
CRANK and  
FLY WHEEL  
And VACUUM

PUMPS.



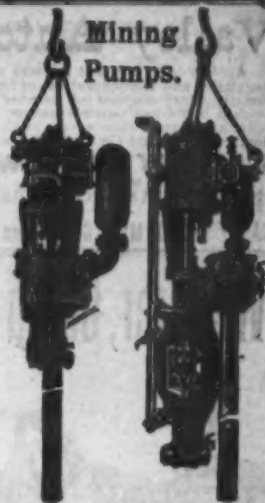
SEND FOR  
Illustrated Catalogue A.

SIMPLE,  
COMPACT,  
DURABLE,  
EFFICIENT.

ADAPTED TO  
ALL PURPOSES.

NO OUTSIDE  
VALVE GEAR.

The A. S. Cameron Steam Pump Works,  
Foot of East 23d Street,  
NEW YORK.



Mining  
Pumps.

Piston Pattern. Plunger Pattern.

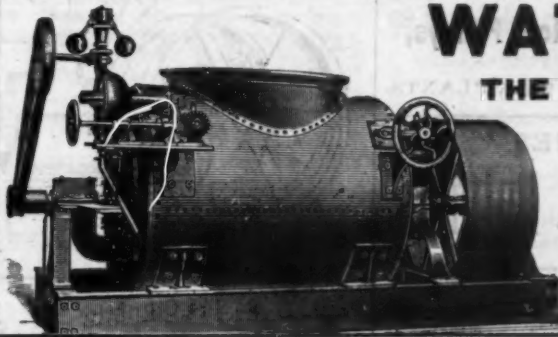


ABC  
PUMP

Valley Pump Co.

EASTHAMPTON,  
MASS.

ENGLISH, MORSE & CO.  
KANSAS CITY, MO.



## WATER WHEELS.

THE JAMES LEFFEL TURBINE

On Horizontal Shaft.

More than 80 varieties of this style built by

THE JAMES LEFFEL & CO.

SPRINGFIELD, OHIO, and 110 Liberty Street, N. Y. City.

Send for our Fine Pamphlet and other Information.

DUPLEX STEAM PUMPS.  
 POWER PUMPS.  
 PRESSURE PUMPS.  
 INDEPENDENT CONDENSING APPARATUS.  
**BARR PUMPING ENGINE CO.**  
 GERMANTOWN JUNCTION,  
 PHILADELPHIA, PENNA.

**THE ECLIPSE PUMP MFG CO.**  
 RAILWAY WATER STATION OUTFIT  
 EXCELSIOR DIRECT ACTING STEAM PUMP  
 GENUINE DUPLEX STEAM PUMP  
 ECLIPSE FEEDER  
 PUMPS OF EVERY DESCRIPTION  
 CINCINNATI, O.  
 SEND FOR CIRCULAR

SILVER & DEMING MFG CO.  
 MANUFACTURERS OF  
**PUMPS**  
 FOR  
 POWER HAND & WINDMILL USE  
 ARTESIAN WELL PUMPS & CYLINDERS A SPECIALTY  
**SALEM, OHIO.**

**OHATTANOOGA FOUNDRY & PIPE WORKS.**  
 DAVID GILES, Pres. C. E. BOSTER, Vice-Pres. M. LEWELLYN, Secy. and Treas.  
 Successors to E. GILES & CO., Chattanooga, Tenn., Manufacturers of



Also Castings and Pat-  
terns of Every Descrip-  
tion made to order.

## SPIRAL WELD STEEL PRESSURE PIPES.

HAMMER WELDED.



FLANGE STANDARD.

Practical for Water, Gas, Steam or Air, under Light or Heavy Pressures.

STRONGER, LIGHTER, CHEAPER than any other Pressure Tubes manufactured.

THE SPIRAL WELD TUBE CO., 43 John Street, New York.

M. E. McWANE, President and General Manager.

W. D. CAMPBELL, Secretary and Treasurer.

**THE GLAMORGAN COMPANY, Proprietors of**  
**HILL CITY PIPE WORKS**



Manufacture all kinds of Blast  
Furnace, Coking and Mining Ma-  
chinery; Boilers, Engines, Tram-  
way and Construction Car Castings,  
and Tobacco Machinery, etc.  
Prices on application.

LYNCHBURG, VA.

S. E. NOBLE, Pres.

JOHN E. WAKE, Sec. and Treas.

R. F. CARTER, Supt.

## ANNISTON PIPE WORKS

ANNISTON, ALA.

MANUFACTURERS OF



CAST IRON GAS & WATER PIPE

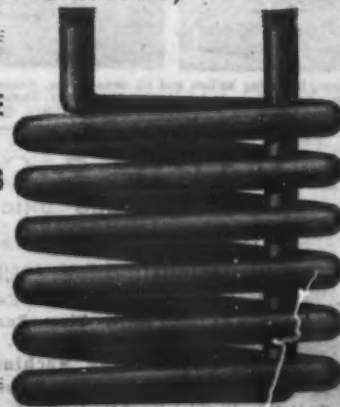
Special Castings, General Castings and Machine Work.

## JAMES D. CARDELL & CO.

PIPE BENDING WORKS,

Philadelphia, Pa.

Coils of  
 WROUGHT IRON PIPE  
 for  
 ICE and REFRIGERATING  
 MACHINES,  
 CHEMICAL WORKS,  
 SOAP WORKS,  
 BLAST FURNACES.



Coils of  
 Any Desired Length  
 of  
 WELDED PIPE.  
 PIPE BENDING  
 and  
 WELDING A SPECIALTY

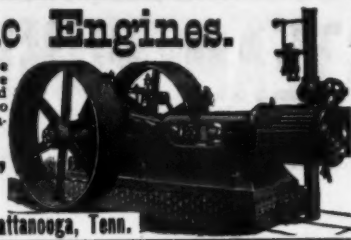
Advertise in the MANUFACTURERS' RECORD.

## Valley Automatic Engines.

Applicable to any and all uses requiring Close Regulation and Economical use of Steam. They are constructed throughout of selected material and finished in the best possible manner. Guaranteed to equal any of their class extant in Economy, Regulation, Durability and General Efficiency.

**VALLEY IRON WORKS,**  
MANUFACTURERS,  
WILLIAMSPORT, PENNA.

CASEY BOILER MFG. CO., Sales Agents, Chattanooga, Tenn.



## Webster, Camp & Lane Machine Company,

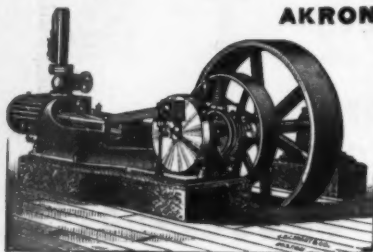
AKRON, OHIO.

BUILDERS OF

### AUTOMATIC ENGINES,

— BOILERS, —

Friction Clutch Pulleys,



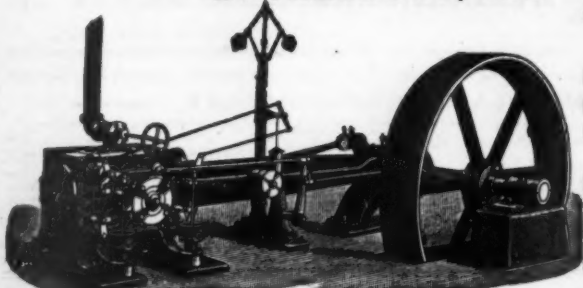
Write for Circulars.

COMPLETE POWER PLANTS.

ECLIPSE CORLISS ENGINES.

## Frick Company, Engineers, Builders,

— WAYNESBORO, PA. —



40 to 1,000 H. P.  
Made.

Condensing, Non-Condensing & Compound  
Send for Circular.

Ice-Making and Refrigerating Machinery.  
Send for Circular.

Special Automatic Electric Light Engines, Steam Boilers, Tractor and Portable Engines, Saw Mills. Send for our General Catalogue.

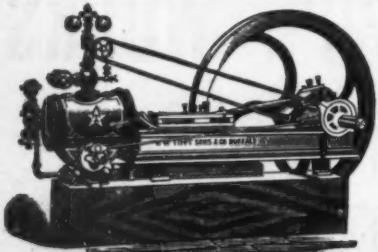
## FOR THE LOWEST-PRICED FIRST-CLASS (—) ENGINES & BOILERS

ADDRESS

**GEO. W. TIFFT, SONS & CO.**  
BUFFALO, N. Y.

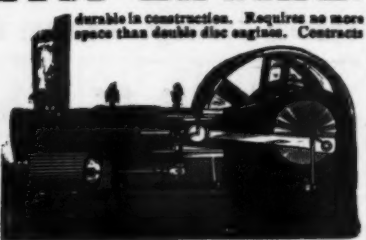
5 to 500 H. P. Special Stock Sizes 5 to 50 H. P., both Stationary and Semi-Portable.

A few good Second-Hand Engines and Boilers are for sale at an astonishingly low figure. Must be sold to make room for new. Correspondence solicited. Mention this paper.



## BECK AUTOMATIC ENGINE.

For Electric Light, Flour, Cotton, Woolen and Rolling Mill Service and all other purposes requiring power. Economical in Steam Consumption. Does not race. Speed constant under varying loads and pressure of steam. Simple.



taken for complete steam plants, including boilers and all connections, masonry and erection. All work guaranteed. Send for catalogue and full particulars. Also builders of Portable, Vertical and Stationary Engines. Boilers of all styles, and Saw Mills. Address: TAYLOR MFG. CO., Chambersburg, Pa.

## ALEX. K. RARIG & CO.

COLUMBUS OHIO.

MANUFACTURERS OF  
Blast Furnace Plants,  
AUTOMATIC CUT-OFF ENGINES,  
HOISTING ENGINES,  
Boilers, Boiler Plate Patches,  
ROLLS AND SHEARS,  
Clay-Working Machinery,  
Steam Sewer Pipe Presses.



Socket Pipe, Tile and Fire-Proof Dies, Wet and Dry Pans for Grinding and Tempering Clay for Sewer Pipe, Terra Cotta, Brick and Tile. We furnish complete outfit for Sewer Pipe and Brick Plants. Write for catalogue. Correspondence solicited. Mention this paper.



## Payne Automatic Engines

HORIZONTAL and VERTICAL ENGINES and BOILERS.

Especially adapted to Electrical Purposes. Also COMPOUND AND TRIPLE COMPOUND ENGINES

**E. W. PAYNE & SONS,**  
Manufacturers,  
Elmira, N. Y.

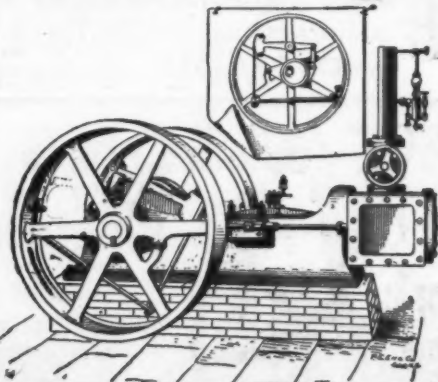
N. Y. Office, 45 Dey St.  
26 W. Randolph St., Chicago  
H. F. Gregory & Co., San Francisco, Cal.



## Porter Manfg. Co., Limited.

SYRACUSE, N. Y.

Builders of Automatic and Plain Slide Valve Engines, Portable and Stationary Boilers, Stand Pipes for Water Works. Only Manufacturers of the NEW ECONOMIZER PORTABLE BOILER.



Complete  
Motive Power  
PLANTS  
FURNISHED.

**The HEWES & PHILLIPS**  
Newark, N. J. **IRON WORKS**

Improved  
CORLISS  
ENGINES,  
High Pressure.  
Condensing and Compound  
TUBULAR BOILERS.  
HEAVY FLY WHEELS.  
A SPECIALTY.  
IN SIZES UP TO  
36 FT. DIA. BY 10 FT. FACE.



## Russell & Co.

MASSILLON, OHIO.

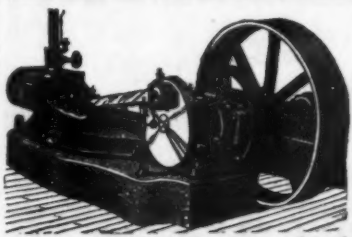
BUILDERS OF

### Automatic Engines, BOILERS, ETC.

Complete Power Plants Furnished.

SOUTHERN AGENCY:

RUSSELL & CO., 75 S. Forsythe St., Atlanta, Ga.



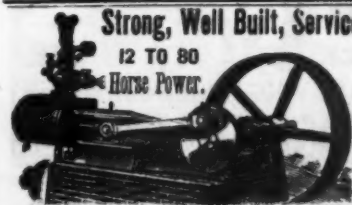
Strong, Well Built, Serviceable

12 TO 80  
Horse Power.

## STEAM ENGINES

Adapted to Heavy, Continuous Work. Every Engine tested under full load. For descriptive circulars, address

Chandler & Taylor, Indianapolis, Ind.



## Wm. A. HARRIS STEAM ENGINE CO.

(Successors to Wm. A. Harris,) PROVIDENCE, R. I.

### Builders of HARRIS-CORLISS ENGINES,

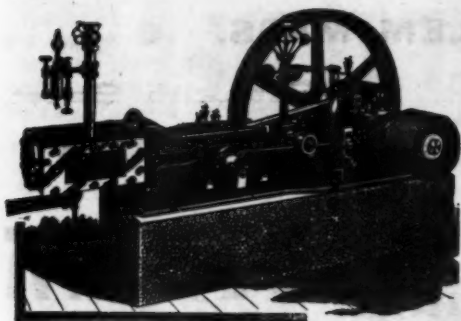
FROM 20 TO 2,000 HORSE POWER.

These Engines are carefully built of best materials and in different forms, such as Non-Condensing, Condensing and Compound Condensing. Send for copy of ENGINEERS AND STEAM USERS' MANUAL, by J. W. HILL, M. E. \$2.50. Mention this paper and send for catalogue. WM. A. HARRIS, Pres. & Treas. The D. A. TOMPKINS CO., CHARLOTTE, N. C., Southern Agents

## THE BIRDSALL COMPANY.

— OF AUBURN, N. Y. —

Stationary, Automatic, Portable and Tractor Engines, Locomotives and Steam Heating Boilers, Radiators, Portable Saw and Grist Mills, Shingle Machines, Thrashers, Fruit Evaporators, etc., etc. Branch House, 305 North Street, Moon Building, Baltimore, Md. FRED. I. MOSKOW, Manager.

336, 338, 340, 342  
NORTH ST.**The WARFIELD MANUFACTURING CO.****BALTIMORE,  
MD.**

THE WARFIELD-FILLINGS AUTOMATIC ENGINE.

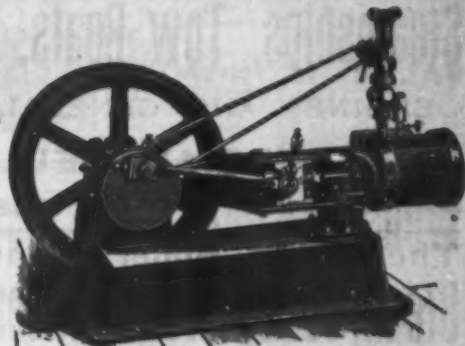
Class A.—The Warfield-Fillings Automatic Engine. A high-grade Engine, (for high or medium speed,) for electric light and other purposes.  
Class B.—The Warfield Throttling Governor Engine—Horizontal and Vertical.

COMPLETE PLANTS FOR THE  
**Generation and Transmission**  
— OF —  
**STEAM POWER.**  
GENERAL MACHINE WORK.

Machinery Designed and Constructed for  
Special Purposes.

OUR MACHINERY IS CLASSED AND CATALOGUED AS FOLLOWS:

Class C.—Steam Boilers—Stationary Tubular, Upright Tubular.  
Class D.—Shafting, Hangers, Pulleys, Couplings, &c.  
Class E.—Fruit, Vegetable and Oyster Packers' Machinery—most complete line on the market.



THROTTLING GOVERNOR ENGINE, HORIZONTAL.

Class F.—Can-Making and Sheet-Metal Machinery.  
Class G.—The Warfield-Fillings Patent Water Motor, Ceiling, Column and Exhaust Fans, complete Ventilating Apparatus, Patent Electric Motors.

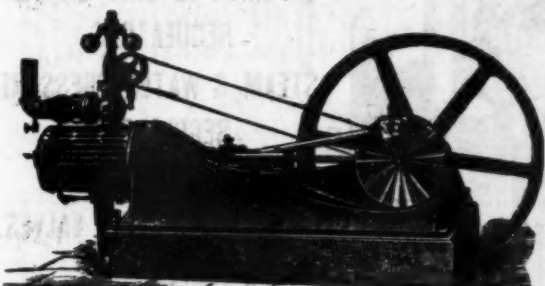
Any of the above Catalogues mailed upon application.

**TALBOTT & SONS, RICHMOND, VA.**

MANUFACTURERS OF

**Engines and Boilers,**

SAW, CORN AND WHEAT MILLS,  
ROPE FEED for SAW MILLS, TIMBER QUAGES, graduated by 1-16 of an inch. Shafting, Hangers and Pulleys,  
**Cotton-Seed Oil Mill Machinery,**  
MODERN COTTON GINNERIES.



BRANCH OFFICES:  
MACON, GA. CHARLOTTE, N. C.

ESTIMATES AND CONTRACTS MADE FOR COMPLETE OUTFITS,  
Embracing the Latest and Best Improvement.

**ENGINES AND BOILERS**

FROM 5 TO 400 HORSE-POWER.  
The strongest, most compact and best built outfits on the market.

Wood-working and Iron-working Machinery a Specialty.

Send for Catalogue B.

**THE GLOBE MACHINE CO.**

35 Broadway, New York.

Why not subscribe for the MANUFACTURERS' RECORD? Price \$4 per year or six months for \$2.

**"THE KRIEBEL" NEW MODEL STEAM ENGINES.**

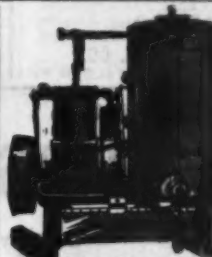
Single and Double Cylinder STATIONARY, SEMI-PORTABLE, MARINE and HOISTING ENGINES. STEEL BOILERS of all styles and sizes. AUTOMATIC and HORIZONTAL THROTTLING ENGINES. GOVERNORS, INJECTORS, STEAM PUMPS, ETC.

Send for Catalogue, stating what you wish prices on.  
RICE & WHITACRE MFG. CO.  
47 & 49 N. Canal Street, CHICAGO, ILL.

**Foundry and Machine Dept.**

Harrisburg Car Manufacturing Co.  
HARRISBURG, PA.

Manufacturers of the Ide Automatic Engine, Compound and Standard patterns. Also builders of boilers and complete power plants. New York Office, Messrs. Fleming & Kimball, 17 Day street. New England Office, Messrs. John Post, Jr. & Co., 70 Kilby street, Boston. Baltimore Office, Messrs. Thomas E. Carey & Bro., 66 Light street, Baltimore.

**Acme Automatic Engine,**  
With BRYANT'S Patent Safety Boiler.

Size 7, 8 and 4 H. P. Fuel, Kerosene (Coal) Oil, 120° to 150° fire test. No dust, ashes, or smoke. No Skilled Engineer required. "Brake" Tests show that 34 gal. fuel will deliver a full H. P. on belt for 10 hours, in the case of our 7 H. P. Engine and Boiler.

**Rochester Machine Tool Works,**  
BUILDERS, ROCHESTER, N. Y.  
SEND FOR CATALOGUE.

**W. R. BURGESS, Southern Representative.****IMPROVED WHEELLOCK ENGINE.****COMPLETE STEAM POWER PLANTS**

For Cotton Mills, Electric-Light Plants and All Purposes Where Durability and Economy of Steam is Important.

The Wheellock Engine has many advantages not possible to any other engine. Heating and Ventilation of Cotton Mills, Drying Lumber, Brick, Pottery, &c., by the Sturtevant System. Everything for Saw Mills, Planing Mills, Brick-Making, &c.  
Correspondence solicited.

**GREENSBORO, N. C.****St. Louis Iron & Machine Works,**

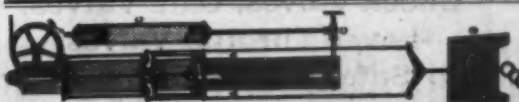
Capital Stock, \$200,000 Paid Up.

**ST. LOUIS, MO.**

Established 1854.

MANUFACTURERS OF

Incorporated 1875.

**Corliss, Steamboat and Slide Valve Engines,****COTTON COMPRESSES, PLATE GLASS MACHINERY,****HOISTING TRAVELERS,****Mining Machinery, Dry Clay Brick Machinery, &c.**

Without any question the  
Greatest  
**FUEL SAVER**  
of any Regulator.

**Hallock Damper Regulator.**

UPWARDS OF 2,000 NOW IN USE

Keeps a steady pressure of steam. Saves fuel and gives regularity of power. Simple in construction. It does not get out of order. Uses no water. Requires no tank. Will outlive any boiler. Every machine warranted.

**AUSTIN ADAMS, Sole Agent, 40 Day Street, New York.**  
Regulator can be taken apart, cleaned and put together in five minutes.

**Valk & Murdoch Iron Works**

CHARLESTON, S. C.

**Engines and Boilers****MACHINERY**

— FOR —

**Complete Fertilizer Works, Rice Mills, &c.**

**THE LOCKWOOD MANUFACTURING CO.**  
BUILDERS OF  
**Steamships, Tow Boats, Steam Yachts,**  
ENGINES AND GENERAL MACHINERY.  
**ARTESIAN WELL TOOLS.**

Send for Estimates.

EAST BOSTON, MASS.

**The Tudor Boiler Manufacturing Co**  
**Steam Boiler and Tank Makers**

OFFICE, 243 E. Pearl St. (opp. Pittsburg, Cincinnati & St. Louis Ry.), CINCINNATI, O.  
SECOND-HAND BOILERS ALWAYS ON HAND.

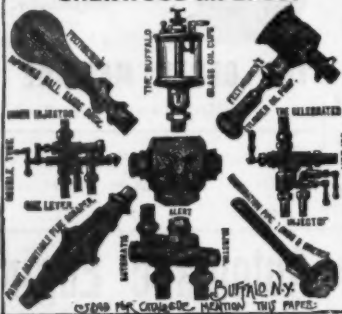
**THE ASHTON VALVE CO.'S**  
**Lock-Up "POP" Safety Valves,**

FOR STATIONARY, MARINE, LOCOMOTIVE AND MOISTING ENGINE BOILERS.

Instant and perfect relief given. Non-corrosive and always reliable. Also,

—WATER RELIEF VALVES FOR STEAM PUMPS AND STANDPIPES.—

271 Franklin St., BOSTON, MASS. New York Office, 107 Liberty St. Branch Office, 218 Lake St., CHICAGO.

**SHERWOOD MFG. CO.****THE CELEBRATED UNION INJECTOR.**

Only One Lever to Operate.

**The Eagle Ejector.**

The Best Jet Pump Made.

Felthousen's Cylinder Oil Pumps; Improved Gauge Cocks; Adjustable Spring Flue Scraper; Improved Ratchet Drills; Combination Pipe and Nut Wrench; Compression Grease Cups; Buffalo Glass Oil Cups &amp; Lubricators

Pop Valves; Steam and Water Gauges; Single Bell and Chime Steam Whistles; Piston and Valve Rod Packing; Supplies all kinds for Engines and Boilers.

**SHERWOOD MFG. CO.**

Sole Manufacturers. BUFFALO, N. Y.

**THE RELIANCE**  
**Safety Water Columns**

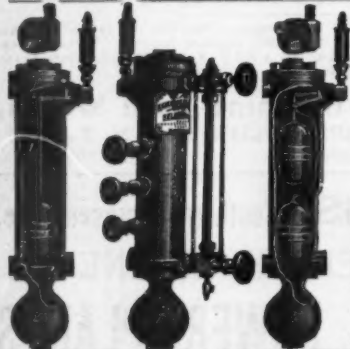
OVER 15,000 IN USE.

**SAFETY** of Life and Property. **ECONOMY** of steam, of fuel, of repairs, of wear on the boiler.

The Most Elegant and Most Economical Water Columns ever placed on boilers. No-steam user or engineer can afford to operate boilers without them. This is the reason why they have been ADOPTED BY MANY OF THE LARGEST STEAM USERS IN THE WORLD.

Every Column Warranted. Send for price list. **The RELIANCE GAUGE CO.,** Sole Manufacturers, Argyle Building, Cleveland, O.

For sale by all Dealers. For sale by all Boiler Makers.

**THE PATENT ROLLER GRATE.**

NEW ENGLAND ROLLER GRATE CO., 65 Federal Street, Boston.

The only "Shaking" Grate with Roller Bearings upon which the grate bars rest. The result is a simple, positive, easy and reliable movement that will not get out of order. Grate bars reversible, and all parts interchangeable. Put in boiler as easily and quickly as stationary bars, without bolts, nuts, screws or change of fire-box, &amp; satisfaction guaranteed. AGENTS WANTED.

**The LUNKENHEIMER BRASS MFG. CO.**  
CINCINNATI, OHIO, U. S. A.

This Out Changes Weekly. Send for July, 1890, Catalogue, containing complete description of

Heavy Regrinding **GLOBE VALVES,**  
Check Valves, Gate Valves,  
Lever Throttle Valves,  
Pop Safety Valves, Improved  
Glass Oil Cups, Automatic  
Sight Feed Lubricators,  
Grease Cups, &c.

For Sale by All Leading Jobbers throughout the United States.



Milled Cover Glass Oil Cup.

**LOCKE BROTHERS,**

\* SALEM, MASS. \*

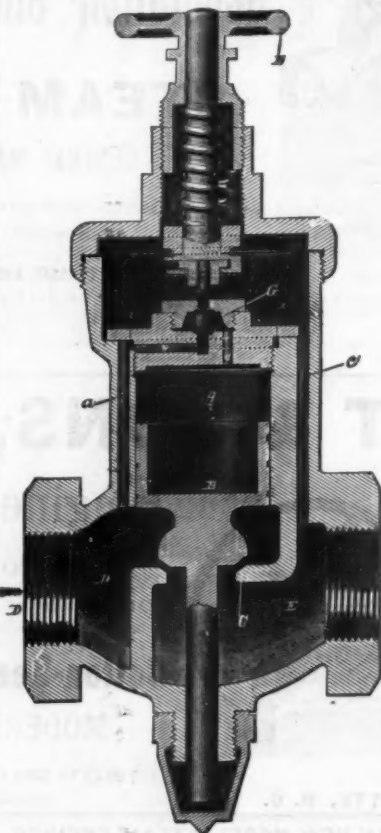
Franklin Street.

Patentees and Manufacturers

OF

**STEAM**

APPLIANCES.



THE LOCKE REDUCING VALVE.

**SUPERIOR STEAM DAMPER**  
**REGULATORS,**  
**STEAM & WATER PRESSURE**  
**REGULATORS,**  
**STEAM TRAPS,**  
**Improved GLOBE VALVES,**  
**CHECK VALVES,**  
**REDUCING VALVES,**  
**BACK PRESSURE VALVES.**

**SATISFACTION GUARANTEED.**

Send for Circulars.

**Wm. Baragwanath & Son**  
**FEED WATER HEATING**  
**PURIFYING APPARATUS**

48-50 & 52  
W. Division St.  
—CHICAGO—  
ILL.

# Stilwell's Patent Lime Extracting **HEATER AND FILTER** Combined.

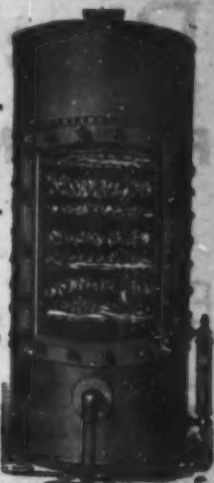
The Only Lime Extracting Heater That Will Prevent Scale in Steam Boilers.

Removing all impurities from the water before it enters the boiler.

**Thoroughly Tested Over 3,000 of Them in Daily Use.**

This cut is a facsimile of the appearance of a No. 5 Heater at work on ordinary lime water, when the door was removed after the Heater had been running two weeks. Illustrated Catalogue Free.

**STILWELL & BIERCE MFG. CO., DAYTON, O.**



## THE J. C. McNEIL CO.

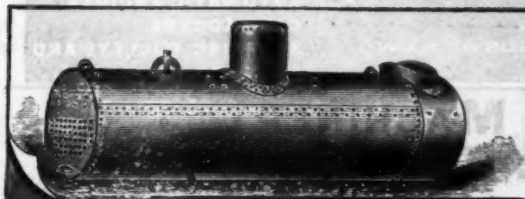
BUILDERS OF

**Standpipes, Boilers and Tanks,**

OF EVERY DESCRIPTION.

Write for Prices.

**AKRON, OHIO.**



## The Zell Improved Boiler

Most Economical Steam Generators on the market.

RESULTS GUARANTEED.

**CAMPBELL & ZELL CO.**

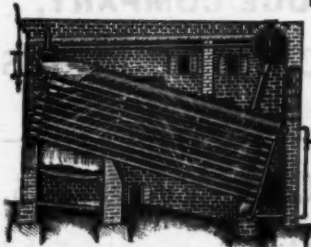
IRON FOUNDERS,

Manufacturers and Engineers,

**ESSEX and BURKE STS.**

**BALTIMORE, MD.**

New York Office, 15 Cortlandt Street.  
Phila. Office, Room 918, Drexel Bldg. Send for circulars.



## Fulton Steam Boiler Works,

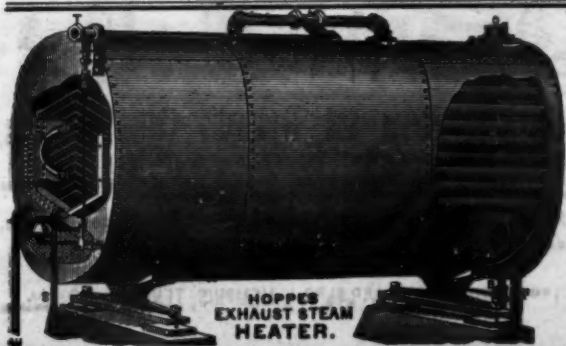
**RICHMOND, IND.**

We offer for the next ten days our Standard Tubular Boilers, warranted 60,000 T. S., Siemens-Martin Steel, at the prices named below, then what?

H. P.	10	12	15	20	25	30	35	40	45	50	60	70	80	90	100
Price	\$65	\$75	\$80	\$90	\$100	\$110	\$125	\$140	\$150	\$160	\$180	\$200	\$225	\$250	\$400

We would get more orders than we could ever fill, but if you are **BUYERS** and want to know **HOW NEAR WE CAN COME TO THE ABOVE FIGURES**, write us at once:

**JOHN T. CAULFIELD, Proprietor.**



**HOPPE'S EXHAUST STEAM HEATER.**

**THE HOPPE'S MFG. CO., Springfield, Ohio, U. S. A.**

MANUFACTURERS OF THE

## Hoppes Exhaust Steam Feed Water Heater.

This Heater has many superior points of merit over all other heaters on the market, among which is the Automatic Feed-Water Regulator, which prevents the nuisance of overflow, so common in other open heaters; and its Oil Catcher, which thoroughly separates the oil from the exhaust steam, and prevents its mixing with the feed-water. The construction of this Heater insures the heating of the water to boiling point, and the retention of all solids that will separate at the heat of exhaust steam. Illustrated catalogue sent on application.

STATIONARY MARINE



140, 142 and 144 FRONT STREET.

**Eagle Boiler Works**

DAN SHEA & CO., Prop's.

Boiler Makers and Sheet-Iron-Workers.

REPAIRING PROMPTLY DONE.

MEMPHIS, TENN.

## ARMSTRONG BROS.

MANUFACTURERS OF

**Engines and Boilers**

ALL SIZES AND KINDS.

Output Last Year 1473 Engines and Boilers.

Have large stock New Standard Boilers, and also large stock Second-hand Engines and Boilers, all sizes and kinds. Will dispose of at a bargain. For Circulars address

**ARMSTRONG BROS., SPRINGFIELD, OHIO.**



SEND FOR THIS BOOK FREE ON APPLICATION.

**BABCOCK & WILCOX CO.** WATER TUBE

**THE BABCOCK & WILCOX ST. N.Y.**

107 HOPE ST. GLASGOW, SCOTLAND.

30 CORTLANDT ST. N.Y.

BRANCH OFFICES: BIRMINGHAM, ENGLAND; CHICAGO, ILL.; CINCINNATI, OHIO; PITTSBURGH, PA.; PHILADELPHIA, PA.; ST. LOUIS, MO.; ST. PAUL, MINN.; WASHINGTON, D.C.

MANUFACTORIES IN UNITED STATES, SCOTLAND, FRANCE, GERMANY & AUSTRIA.

Awarded the Grand Prize at late Paris Exposition.



## THE CURTIS BALANCED STEAM TRAP.

MANUFACTURED BY

**THE CURTIS REGULATOR CO.**

180 Beverly St., Boston, Mass.

HAS balanced Valve, therefore works equally well under HIGH or LOW pressure; discharges full area of pipe; has hard composition float, vented to the atmosphere, and is warranted not to collapse or fill.

GENERAL AGENCIES.

NEW YORK, 109 Liberty St.  
PHILADELPHIA, 2035 North Front St.  
MINNEAPOLIS, 210 South Third St.  
CHICAGO, 218 Lake St.

# Black Diamond Roofing

COMMENCING ITS SEVENTH YEAR IN USE.

## FOR ANY ROOF AND ANY CLIMATE.

Cheap and Durable. Especially Adapted for Southern Climate. More Durable than Metal and Costs Much Less.

WIND-PROOF. WATER-PROOF. FIRE-PROOF. ACID-PROOF.

Applied by anybody. Send for samples and prices.

**EHRET-WARREN MFG. CO.,** SOLE MANUFACTURER, **St. Louis, Mo.**

16 West Missouri Ave., Kansas City, Mo.



ALSO MANUFACTURERS OF  
Building and Sheathing Papers.

**WEBSTER MFG. CO.,**

Successors to WEBSTER & COMSTOCK MFG. CO.

MANUFACTURERS OF  
MACDONALD FRICTION CLUTCHES,  
Shafting, Pulleys, Etc.

FOUNDERS AND GENERAL MACHINISTS.

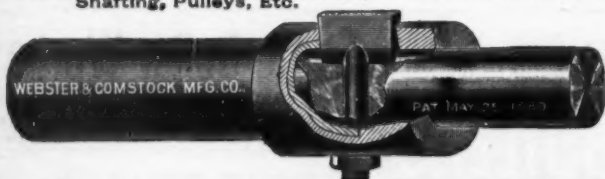
Office and Salesroom, 195 S. Canal St.  
Works, 1075-1096 West 15th St.

**Chicago, Ill.**

DEALERS IN  
COTTON, RUBBER and LEATHER

Coker-Metcalf Power Grain Shovel.

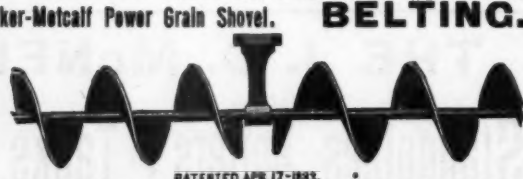
**BELTING.**



New Improved Conveyor Coupling, so arranged that by taking out bolt any desired section may be removed.



"HERCULES" Steel Scoop.

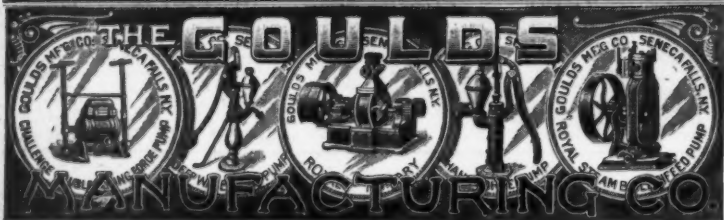


PATENTED APR. 17-1882.  
**SPIRAL STEEL CONVEYOR.**

SOLID & INSERTED SAWS  
PLANER KNIVES and BITS  
EMERY WHEELS, FILES,  
SAW CUMMERS, SWAGES,  
MANDRELS,  
LEATHER AND RUBBER  
BELTING.

**CHATTANOOGA SAW WORKS**  
MANUFACTURERS AND DEALERS IN  
**SAWS AND SAW MILL SUPPLIES**  
EVERY SAW FULLY GUARANTEED.  
WE MAKE A SPECIALTY OF REPAIRING ALL KINDS OF SAWS  
CHATTANOOGA, TENNESSEE

PLANERS and MATCHERS.  
SHINGLE MACHINES.  
LATH MACHINES.  
AUTOMATIC ENGINES.  
CANC EDCERS.  
SHAFTING, PULLEYS AND  
HANCERS. BRADY ENG. CO.



Send for new No. 16 catalogue 13-23 Orid street, Seneca Falls, N. Y., and 60 Barclay st., New York. GENERAL AGENTS:  
Goulds, Caldwell county, Chicago, Ill.; N. O. Nelson Mfg. Co., St. Louis, Mo.

**Salem Foundry & Machine Shop**

—SALEM, MASS.—

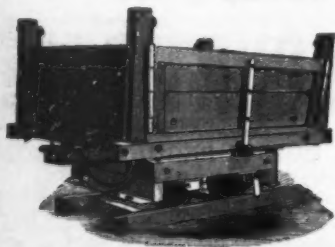
## ELEVATORS,

—AUTOMATIC HATCH DOORS, AUTOMATIC LOCK GATES.—

Send for Illustrated Circular.

**The Corey Car & Mfg. Co.**

Manufacturers of Every Description of



**Dumping and Mining Cars**  
IN WOOD, IRON AND STEEL.

PORTABLE TRACK and SWITCHES,

301 & 303 Phenix Building,

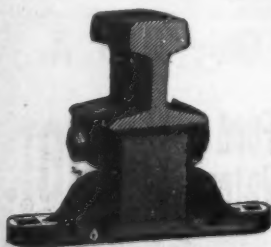
CHICAGO, ILL.

**R. T. WHITE,** 12 Pearl Street,  
BOSTON, MASS. ROOM 6,

Improved Patented Material  
FOR  
Street Railway Roadbeds.

BEST MATERIAL. LOWEST PRICES.  
CORRESPONDENCE SOLICITED.

**THOMAS ASHBURNER,** Western Agent,  
KANSAS CITY, MO.



DAISY CHAIR.

Patented January 28th, 1890.

Sample Chair and Section of Rail sent (express prepaid) to prospective purchasers. Made of cast iron or cast steel mixture and for any form of rail having a T rail form of base.

FOR **MINING MACHINERY,**  
**HOISTING ENGINES,**  
**AIR COMPRESSORS,**

All Superior in Design and Efficiency.

Write to  
**MORRIS COUNTY**  
**MACHINE COMPANY,**  
DOVER,  
N. J.

**THE PITTSBURGH BRIDGE COMPANY,**

**Iron Bridges, Viaducts and Buildings**

R. MERYDITH, Agent at Chattanooga, Tenn.

**POTOMAC BRIDGE WORKS,**

FREDERICK CITY, MD.

**BRIDGE ENGINEER and CONTRACTOR.**

Iron and Steel Bridges, Roofs, Buildings, Masonry and Pile  
Foundations. Contracts taken for Substructure  
and Superstructure Entire.

LEWIS J. MILLER,  
Philadelphia, Pa.

**MILLER & BIERCE,**

WILL W. BIERCE  
Memphis, Tenn.

## Engineers and Contractors



Sole Agents for

**Lewis Miller's Improved Steam and Hydraulic Cotton Compress,**  
(Lewis Miller's and John F. Taylor's Patents.)

The most powerful, economical, and the fastest working Compress built. The only Compress  
in the world that will load cars and vessels to their full tonnage.

Also Agents and Manufacturers of Steam Engines, Water Engines, Pumps,  
Boilers, and Heavy Machinery in General.

OFFICES:

PHILADELPHIA, PA., (ROOMS 207 & 210 GIRARD BLDG.) MEMPHIS, TENN., ROOM 12,

# Southern Railroads.

## Arkansas and Her Railroads.

While the States on the South Atlantic coast are being rapidly crossed and recrossed by railroads, and their prosperity greatly augmented thereby, the western portion of the South, and especially Arkansas merit attention. Arkansas, a State possessing vast quantities of timber, iron, manganese and coal, together with soapstone, kaolin, alum, slate, antimony and many other minerals, should receive more attention at the hands of railroads and railroad builders.

It is greatly due to the lack of railroads that the vast resources of this State have remained unknown to such an extent. The southeastern portion of the State is thoroughly familiar to almost all travelers in that section of the country, but the northern and northwestern parts, where exist mineral beds destined to rival Alabama or Pennsylvania, not even one railroad traverses that country. Let the legislators of Arkansas look into the facts and examine the causes, and also let the railroad builders investigate, for most satisfactory profits await the railroad company securing the most desirable routes in that region. Could Northern Arkansas be gridironed with roads, as some other portions of the South are, we should see the furnace and the foundry springing up as we have in other iron districts of the South where railroads have been constructed. Railroads are great developers, and Arkansas needs them badly.

THE Anniston & Atlantic and the Anniston & Cincinnati Railroad Companies have consolidated under the name of the Alabama Mineral Railroad Co., to take effect immediately. These roads were both recently acquired by the Louisville & Nashville.

A DISPATCH from Richmond, Va., says that a deed has been filed in the chancery court by the Richmond & Petersburg Railroad Co. mortgaging to the Central Trust Co. of New York the road, rolling stock and depots, to secure payment of bonds to the amount of \$1,000,000 and interest. These bonds were issued by the company for double-tracking the road from Richmond to Petersburg.

A SLIGHT delay has been experienced in finishing the last section of the Baltimore & Eastern Shore Railroad, referred to at length in our issue of July 12, between Vienna, on the Nanticoke river, to Salisbury, Md.—17 miles. The track is now being laid between these points from Salisbury, and will soon be completed. The bridge over the Nanticoke river is also nearly completed. The Wicomico & Pocomoke Road between Salisbury and Ocean City is to be entirely reconstructed. Many of the curves are to be eliminated, the road-bed ballasted, new bridges built and new ties and rails laid.

IMMEDIATELY upon the heels of the news from England that Commodore Bateman has secured sufficient funds for the completion of the Atlantic & Danville to some point West, presumably Bristol, comes another rumor that the East Tennessee, Virginia & Georgia has acquired the road. If true, this is a very important deal as it will give the East Tennessee its own line to the Atlantic coast. The statement is now advanced that Bristol will not be the western terminus, but that Johnson City, Tenn., is the favored place. The Comet, of Johnson City, says that the road will be constructed from Wilkesboro, N. C., following the Yadkin river to the top of the Blue Ridge and crossing through Cook's Gap,

strike the headwaters of the Watauga, to Johnson City.

MAJOR A. L. HARTRIDGE, of Savannah, Ga., has received a letter from Knoxville, stating that the Marietta & North Georgia has been completed to a point 74 miles south of there, and that there is now only a gap of 12 miles between Marietta and Knoxville to complete, which lies between the Hiwassee and Tennessee rivers. This portion of the road has been graded, the ties are on the ground, and the rails will be received this week, and in ten days after their receipt the gap will have been closed up, and Major Hartridge says that in a week after the last rail has been laid regular trains will run through from Marietta to Knoxville. The principal delay in getting rails, Major Hartridge says, is on account of the scarcity of cars, and he says that when there is a scarcity of cars at what may be considered the dull season of the year it is significant of the extensive business being done by the railroads of the South. The stipulated time for the Marietta & North Georgia to get into Knoxville is August 23, but the Knoxville city council, realizing the difficulties encountered in the mountainous sections which the road will traverse, has extended the time six months. "We did not ask the time extension, nor will we need it," Major Hartridge said. "We will be running trains into Knoxville before August 23."

THE early advent of the Atlantic Coast Line in Augusta, Ga., is now considered a settled fact. It was found that by the abandonment of the present detour to Wilmington, and the abolishment of the angle, that an almost straight line is secured to Sumter, S. C. From there the Manchester & Augusta Railroad, which has been built to the Santee river, a distance of 20 miles, gives a route here about as straight as the Charlotte, Columbia & Augusta Road. The distance from Augusta to the Santee river, via the route of the road which is to be built, is 94 miles. A railroad man, in speaking of the desire of the Atlantic Coast Line to come to Augusta, said he felt sure they would do so. While in New York recently at a railroad meeting, Mr. Walters was heard to remark that his people had made up their minds to tap Augusta. The Coast Line Co. is thought to have been led to this by the signs that have been evinced on the part of the Richmond & Danville Road that the agreement to co-operate together for offense or defense was not clung to by the Richmond & Danville with the old fervor since that line has become part of the Terminal system. The Richmond & Danville felt that they had waited for the bulk of the business in this field, and the Coast Line would have to whistle for it if they said so. Now comes the Atlantic Coast Line to Augusta with the expressed claim of being preferential carriers with the Louisville & Nashville system. The reported intention of the Louisville & Nashville to build east in that direction makes an interesting condition of matters. It has been felt all along that the L. & N. Road would reach the seaboard via the South Carolina Road, which line is able to be offered for sale by order of Judge Bond almost any day.

THE prediction is now made that \$500,000 will be appropriated by Congress for Galveston harbor, and the government will be authorized to make the contract for completing the jetty system in the engineer's report. This would be, it is thought, the same practically as appropriating \$6,400,000, contemplated in the original bill.

## Railroad Construction

Augusta, Ga.—Railroad.—The Augusta & West Florida Railroad Co. will, it is said, obtain control of the projected Carolina, Knoxville & Western Railroad, lately referred to.

Autaugaville, Ala.—Railroad.—F. C. Faust, of Prattville, chief engineer Autaugaville & Northern Railway, writes that maximum grade of that road is 3 per cent., curvature 4°. The road will extend to Booth's Station, a distance of 8 miles. M. M. Smith is president and M. Howard, secretary.

Batesville, Ark.—Railroad.—The work of definite location of the Arkansas & Gulf Railroad will be commenced on September 1. Carnegie, Phipps & Co., Limited, of Pittsburgh, Pa., have contract for furnishing 8,000 tons of 56-pound steel rails.

Bristol, Tenn.—Dummy Railroad.—Work has been commenced on the dummy railroad lately referred to.

Brunswick, Ga.—Railroad.—The Brunswick & St. Simon's Coast Line Railroad Co. has been organized by Morris Michelson, James T. Lambright and R. H. Hirschfeld for the purpose of constructing a railroad from Brunswick to St. Simon's Island, a distance of about 25 miles; capital stock not less than \$150,000 or more than \$1,000,000.

Burgaw, N. C.—Railroad.—The Wilmington & Weldon Railroad Co. (office, Wilmington) will, it is stated, construct a branch to Dunn, on the Wilson & Fayetteville Branch.

Camden, Ark.—Railroad.—W. R. Smith, chief engineer Camden & Alexandria Railway, lately referred to, writes that that road is located from Camden to El Dorado, a distance of 32 miles. Contract will be let in a few days and work begun at once.

Cold Springs, Texas.—Railroad.—A railroad is talked of to extend to Keno.

Columbus, Miss.—Railroad.—It is reported that the Tombigbee Railroad Co., organized about two years ago, will shortly commence work on its line, projected to Decatur, Ala., a distance of 238 miles, and also construct a branch to Birmingham, Ala.

Cordele, Ga.—Railroad.—The Cordele Construction Co., lately mentioned, is being organized for the purpose of constructing a railroad from Fort Valley via Cordele to Brunswick; also from Cordele to Hawkinsville. Charter for the road was obtained at last session of the legislature. It is to be known as the Southeastern Railroad. The Cordele Construction Co. is prepared to receive proposals for construction. Address F. L. Cawley.

Covington, Ky.—Electrical Railroad.—The Covington Street Railroad Co. is considering adopting electricity as a motive power.

Denison, Texas.—Railroad.—The Denison, Bonham & New Orleans Railroad Co., at a stockholders' meeting previously reported to be held, decided to authorize an amendment to its charter so as to allow the construction of a branch from its main line at Denison to connect with the Transcontinental division of the Texas & Pacific Railway.

Eagle Rock, Va.—Railroad.—Howard & Sears, lately referred to as having contract for the Craig Mineral Railroad, have sublet contracts as follows: to J. C. Carpenter, for first 10 miles of grading; to Rheinhardt & Teaford, for sections 11 to 14; to Gooch & Waugh, sections 15 to 18; to Rheinhardt & Patton, to Rosazza & Moltini, for masonry. H. E. Tallbot, assistant engineer, can give information.

Fort White, Fla.—Railroad.—The St. John's & Santa Fe Railway is projected to Jacksonville, a distance of 75 miles. J. A. Bryan, 20 Hubbard Block, Jacksonville, can give information.

Fort Worth, Texas.—Dummy Railroad.—The construction of a dummy railroad to extend to Dallas is being agitated.

Gadsden, Ala.—Railroad.—The Gadsden, Shelby & Montgomery Railroad Co. has been incorporated by Charles M. Shelby, of Birmingham, and others, for the purpose of constructing a railroad to Montgomery via Shelby.

Gainesville, Fla.—Street Railroad.—It is stated that the Gainesville & Suburban Railway, previously reported as projected to Newnan's Lake by A. L. Rice and others, will soon be constructed. R. L. Robb can give information.

Gallatin, Tenn.—Railroad.—J. C. Rodemer & Co. confirm the report of last week that they have contract for grading the Middle & East Tennessee Central Railroad from Hartsville to Rogana. They also have contract for completion of that portion.

Hopkinsville, Ky.—Railroad.—Organization has been perfected of the Cumberland Gap & Mississippi River Railroad Co., and stock has, it is stated, been subscribed for constructing its line from Columbus to Cumberland Gap via Hopkinsville. Joseph F. Ford is president and Hunter Wood, secretary.

Humboldt, Tenn.—Railroad.—The report that Robinson & Brickley, of St. Louis, Mo., have contract to construct and equip 35 miles of the

Missouri, Tennessee & Georgia Railroad is confirmed.

Huntsville, Ala.—Railroad.—Allison, Shafer & Co. have received contract for constructing the extension of the Tennessee & Coosa Railroad, lately mentioned. Their bid was \$147,860.

Kemp, Texas.—Railroad.—Work is reported to have been commenced on the Dallas & New Orleans Railroad at this place.

Knoxville, Tenn.—Electrical Railroad.—The Black Diamond Coal Co. proposes to adopt electric locomotives in its mines for the purpose of conveying coal.

Little Rock, Ark.—Electrical Railroad.—The Little Rock & Argenta Railway Co. has asked permission to operate its lines by electricity.

Louisville, Ga.—Railroad.—It is rumored that the Augusta & West Florida Railroad Co. (office, Augusta) intends purchasing the Louisville & Wadley Railroad.

Louisville, Ky.—A mortgage from the Kentucky Union Railway Co. to the Columbia Finance & Trust Co. for \$1,300,000 has been recorded.

Lynchburg, Va.—Railroad.—The West Lynchburg Land Co. is reported as having effected agreement with the Norfolk & Western Railroad Co. (office, Roanoke) for the extension of the latter's line to the Lynchburg Zinc Works.

Lynchburg, Va.—Electrical Railroad.—The West Lynchburg Land Co. is said to have let contract to the American Development Co. for converting its street railroad, previously referred to, into an electrical railroad.

Memphis, Tenn.—Electrical Railroad.—Robinson & Brickley, of St. Louis, Mo., have contract for constructing the Memphis Electrical Railroad.

Meridian, Miss.—Dummy Railroad.—The Bonita Park Association has, it is reported, let contract to Beard & Brandon for constructing its dummy railroad, lately referred to.

Morristown, Tenn.—Railroad.—Thompson Bros. & Rivenack confirm the recent report that they have contract for the grading and masonry on the Morristown & Cumberland Gap Railroad, to be completed by December 25.

Radford, Va.—Railroad.—A railroad is being talked of to extend from Radford to Floyd Court-house.

Raleigh, N. C.—Electrical Railroad.—It is rumored that a syndicate is attempting to purchase the street railroads of Raleigh and convert them into electrical roads.

Roanoke, Va.—Railroad.—It is possible that the Northern terminus of the Roanoke & Southern Railroad may be made Salem, owing to the difficulty of securing terminal facilities at Roanoke.

Savannah, Ga.—Railroad.—The city council has offered right of way in the city of Savannah to the Macon & Atlantic Railroad Co. (office, Macon) for its line, which is to extend from Macon.

Sherman, Texas.—Railroad.—Work has been commenced on the Sherman, Denison & Dallas Railroad formerly referred to.

St. James, La.—Railroad.—The Bayou Lafourche Central Railroad Co., Limited, has been organized at New Orleans to construct the railroad, lately referred to, to extend to Napoleonville; capital stock \$500,000. This is the same company which it was at first proposed to call the St. James & Napoleonville Railroad Co. Joseph Maille is interested.

Waco, Texas.—Electrical Railroad.—The Citizens' Railway Co., lately referred to, has purchased the Waco Street Railway and is converting it into an electrical railroad. George Clark can give information.

It is reported that the Standard Oil Co. has leased for a term of 25 years the copper property at Ducktown, Tenn., and will commence operating the mines about the first of September. According to all statements, these mines are very rich in copper. Owing to legal difficulties for the past 31 years, seriously affecting the title to the property, no one has felt disposed to operate it; but now that these have been settled it is said that the next legislature will authorize their lease to the oil company for 25 years' time. This means the revival of a very important industry in Southeastern Tennessee.

THE Roanoke (Va.) Herald has appeared in a new and very attractive dress. The publishers intend enlarging their corps of correspondents, and a traveling correspondent will be kept in the field. The Herald will within a short time commence publishing press reports from the leading cities of the country.

## A Republican's View of the Force Bill.

TREDEGAR, ALA., July 28, 1890.

Editor Manufacturers' Record.

There is a breed of original package dispensed in the Congressional restaurant, and locally known as "cold tea," which should be suppressed. Then Congress would adjourn, for the average legislator will not stay long in a place where such blessings and incentives are forbidden. That would be a mercy, for the portion of the country down this way is heartily sick of the Washington nonsense over the diaphanous Force bill. Its motive ought to be too plain to fool anybody with its ostensible purposes—so plain that it is scarcely worth the words it takes to uncover the true intent and meaning of the measure. It is the last kick on the part of beautiful and accomplished speculators of both political parties, who recognize disaster to some of their ventures in the sudden movement of enterprise, capital and the best elements of American population Southward. This movement means the withdrawal of capital, interest and all the energizing forces from the West, and that in turn means a sudden cessation to Western booms and a rapid decrease in the value of Western farm mortgages, railway securities based upon lines traversing vast regions where only a single crop can be harvested, and that generally grasshoppers or corn at twenty cents per bushel f. o. b. There are not a few pious gentlemen who are loaded to the guards with "Atchison," with Nebraska mortgages or with wildcat prairie or mining lands, who "view with alarm" the current tendency of American youth, vigor and wealth to go South for employment, development, industrial enterprise or speculation, turning the national back upon the culled-out districts which have formed the theatre for American adventures ever since the cold winter of 1816. Unaided, perhaps, the class referred to might not develop the wormwood and the gall sufficient to play such a dead open game on the country as that contained in Mr. Lodge's cunning measure. There is another class beside that including the Western mortgage and the prairie and Rocky mountain wildcat, which is looked and appealed to to stem the torrent and attempt to turn it around and about up hill into its old channel "out West." Of course I refer to the manufacturers and others in Pennsylvania, Ohio and the Eastern States whose vitals are being eviscerated by the great and growing successes of Southern mineral, metal and textile industries. Concededly, we are beating them in the manufacture of iron. Confessedly, with the advantage of the greatest of modern discoveries in metallurgy in Southern hands we can wipe them out in the making of steel and all its multimorph products, while the cotton manufacture is moving steadily, remorselessly toward the fields that furnish its raw material. The centers of development of the coal and coke trades are advancing to the vast fields of Virginia, Kentucky and Tennessee. So with the timber, lumber and woodworking interests, and everything else.

It is not to be wondered at that such conditions, drawing as they certainly do from the prosperity of the East, and apparently—but only so—from the prosperity of the West, should have raised the royal American row they have; nor that interested parties should have endeavored by any means in their power to strangle this infant giant before its fists should become tough enough to mash the proboscis of its frightened adversary. Thus the gentle mother country once sought to prevent the development of industrial enterprise in the colonies, inhibiting bloomeries, furnaces, woolen mills, flax mills and anything else that might compete with the establishments of the older part of the empire. History

is repeating itself. Pennsylvania, which hath waxed fat and wicked under conditions exactly like those which have at length turned to our advantage down here, the minute all the advantages are no longer on her side turns upon us and would choke the life out of us as she could.

The game, therefore, is to enact some law which might be expected to justly exasperate the Southern people beyond the point of American Anglo-Saxon endurance, and then when the hoped-for outbreak of hot blood shall come here and there to say: "Didn't we always tell you so? Now don't you see that life and property are unsafe in the South, just as we always said they were?" That, reduced to its nakedness, is the nigger in the Lodge woodpile, and it is a man and a brother which will not work. One might as well try to dam Niagara with a number five presidential beaver. Force bill or not, the Southern development has achieved such a national start and momentum that the American party adopting a policy to obstruct and retard it will perish suddenly and miserably in the attempt. I say this as a Northern man and a life-long Republican. I am not alone in the position. I know scores of good Republican citizens, men of wealth, position and influence in the Southern States, who know what they are talking about, and who declare that they never will vote for or countenance the Republican party again should the Force bill become a law.

All the Lodge movements in the world cannot stem or divert the tide of Southern progress, for one reason, because something like the present evolution had become a vital national necessity. High prices and ready access to foreign markets had been overcrowding the ranks of the Western agricultural interest. Even to-day American farmers are raising more food products than they can easily market, and too large a proportion of the people are farming. The remedy for this is in the upbuilding of this great industrial empire in the Southern States. At the present rate of progress a very few years will give profitable employment to such an army of workers in the South, that every plough, harrow, reaper and thresher in the West and Northwest will be kept busy to find food for them. The people of the West will want, and want now, our cheap steel, iron, woollens, cotton goods, our lumber and wood products, our fruits and early vegetables, our tobacco, rice and sugar, while we will be forever the best of customers for grains, meat products, root crops, groceries, boots and shoes, and all the million things convenient for the establishment of exchange between communities widely different in soil, climate and production. Without extending the argument, there is not such a basis of exchange between the East and the West. The natural commercial alliance is between the West and the South. The successful statesmanship of the future will be in the direction of perfecting and cementing this alliance. On the part of the West certainly not toward assisting the Eastern mortgage operators and the Pennsylvania steel barons in their attempt to kill out the development which alone can once more give practical value to the lands of the prairie States by creating an imperial market for their crops. Meantime, if the lobby employed by the sharks and monopolists should succeed in buying or bullying the Congress, their masters will have had their labor for their pains. The first shock of disgust and resentment is over in the South. The Southern people are law-abiding and patriotic to-day, whatever they may have been some time in the last generation from a Republican point of view, and they are altogether too clever to fall into the trap that the gang has set for them. They know that enough old-time Republicans, including an army of ex-fed-

eral soldiers, will leave the party to guarantee a Democratic administration succeeding that of Mr. Harrison, and they can afford to and will bide their time peaceably and with dignity.

GOLDSMITH BERNARD WEST.

## A Distinguished Southern Journalist.

Many readers of the MANUFACTURERS' RECORD will remember Col. I. W. Avery, who was for some years our Atlanta representative, and whose letters on Southern industrial matters attracted wide attention. After Mr. Cleveland was elected President, Col. Avery was appointed to a very responsible position in the Treasury Department as chief of one of the bureaus. He also held the position of private secretary to Senator Jos. E. Brown. The latter position he still holds, but of course went out of the Treasury Department under the present administration. Those of our readers who remember his very able letters to the MANUFACTURERS' RECORD in the past will be interested in the following extract from the Atlanta Journal:

The accomplished Washington correspondent of the New York Sun sends his paper a kind reference to Col. I. W. Avery, of Georgia, which the Journal reproduces below. But there are one or two unintentional errors in it which the Journal will correct. Col. Avery's health is excellent, and he is fully able to do any work that he may assume. He is almost entirely over his physical incapacity, which resulted not from ill health, but from an old wound from which he is recovering.

Below is the Sun's article:

For the past month or two a dignified-looking old gentlemen on crutches has been a conspicuous object on the floor of the Senate chamber for several hours each day. He hobbles in soon after the session begins, and, taking a modest place upon a sofa, converses familiarly with the Democratic Senators. They all appear to know him, although he seems to be an utter stranger to the people in the gallery and the Senators on the Republican side. Time and time again Republican members of the Senate make inquiry of a Democratic colleague as to the old gentlemen's identity, and they always seem to get a satisfactory answer. Very few of the door keepers know him, but as he always enters the chamber from the same entrance that fact makes no difference to him. He listens eagerly to the speeches that are made, and seems to be interested in everything that is going on. A day or two ago as a Democratic Senator, who had been conversing with the old gentleman, returned to his seat, he was approached by a Republican colleague, who asked:

"Who is the old gentleman with whom you have just been talking, and who takes such an interest in us?"

"Why," answered the Democratic Senator, "that is Uncle Joe Brown's private secretary, Col. Avery, of Georgia. He was for years the editor of the Atlanta Constitution, and was the journalistic godfather of the late Henry W. Grady."

Of course the Republican Senator had heard of Col. Avery, and eagerly sought an introduction. The case of this aged private secretary is an illustration of the ill fortune with which some men meet. He is one of the brainiest men in the South, and has been looked up to as a political adviser for many years. He is a man of great learning, and Democratic Senators eagerly seek his advice on the topics of the day. By them he is treated with great deference, and is on terms of intimacy with them all. He accepted the place of secretary to Senator Brown when ill health compelled him to give up the profession of his life, and in which he made himself one of the idols of the South. He has been with Senator Brown for many years, and as he is unable to convert his talents into the means of making money, he finds the salary allowed a Senator's private secretary very welcome, and he endeavors to earn it.

## Southern Financial News.

### NEW BANKS.

Aransas Pass, Texas.—The First National Bank of Aransas Pass has been organized with a capital stock of \$60,000. R. H. Wood is president, and J. M. Hooper, cashier.

Chestertown, Md.—The capital stock of the Chestertown National Bank has been increased from \$50,000 to \$60,000.

Cleburne, Texas.—The Farmers & Merchants' National Bank has been organized.

Dallas, Texas.—The University Place Improvement Co. has been organized for the purpose of conducting a money, loan and real estate business. R. W. Allen, J. J. Collins, W. B. Gano and others are the incorporators.

Demopolis, Ala.—The First National Bank of Demopolis, lately referred to, has been organized with J. S. Handley, president, and J. Marx, cashier.

Fort Worth, Texas.—It is said that a bank with a capital stock of \$150,000 will be organized with Charles S. Cobb, of Eaton Rapids, Mich., cashier.

Louisville, Ky.—The Kentucky-Netherland Trust Co. has been incorporated with \$2,000,000 capital stock.

Macon, Ga.—The Macon Abstract Co. has applied for a charter with R. T. Lawton, W. W. Brown, W. A. Davis and others as organizers; capital stock not less than \$10,000 or more than \$500,000.

Marble Falls, Texas.—The First National Bank of Marble Falls will probably shortly be organized; capital stock, \$50,000.

Middlesborough, Ky.—Theodore Harris is president and C. M. Woodbury, vice-president, of the First National Bank, mentioned last week.

Morristown, Tenn.—A State bank has been organized by J. A. Carriger, W. K. Blair and others; capital stock, \$50,000.

New Castle, Va.—The Bank of New Castle, previously referred to, is about to be organized.

Waco, Texas.—The State Central Bank of Waco will increase its capital.

## Foreign Exchange Quotations.

ALEXANDER BROWN & SONS.

BALTIMORE, July 23, 1890.

Sterling.—		Commercial.
Selling.		48 3/4 @ 48 1/4
60 days.....	48 1/2	
3 days.....	48 3/4	
Francs.—		Commercial.
Selling.		52 1/4 @ 52 3/8
60 days.....	51 7/8	
3 days.....	51 5/8	
Reichmarks.—		Commercial.
Selling.		94 1/2
60 days.....	95 1/2	
3 days.....	96	
Guilvers.—		Commercial.
Selling.		39 1/2
60 days.....	40 1/2	
3 days.....	40 3/4	

**STEAM HEATING.**—Proposals invited for complete steam heating apparatus for public schools for city of Americus, Ga. Plans of buildings (now in course of erection) can be had on application to G. L. Norman, Architect, Atlanta, Ga., or to undersigned in this city. URIAH B. HARROLD, Chairman Building Com.

**NOTICE TO CONTRACTORS.**—Sealed bids will be received by the Board of Water Commissioners of Gainesville, Ga., for the construction of a complete system of water works for said city. The work will include the construction of a supply well, standpipe, the furnishing of engines, boilers, pumps, pipes and all other necessary appliances to complete a first-class system of water works. Plans and specifications may be seen in the Council Chamber of the city. All bids will be opened and the contract awarded on the 26th day of August, 1890, at 12 o'clock noon. The right is reserved to accept or reject any or all bids. Bids may be made for the whole water works complete or for any given part or class of the work. Address all bids and other communications to E. F. CHAMBERS, Clerk Water Commission, Gainesville, Ga.

**NOTICE TO CONTRACTORS.**—Sealed proposals will be received by the Commissioners appointed for the purpose by the County Court of Monongalia County, West Virginia, at the office of the Clerk of the Circuit Court, in Morgantown, in said county, until 12 o'clock noon of Monday, September 1, 1890, for the labor and material and the construction and completion of a Courthouse at Morgantown, West Virginia, in accordance with the drawings and specifications furnished by John C. Fulton, Architect, copies of which may be seen at this office after the 5th day of August, 1890. 1st. All bids must be made upon the printed forms to be obtained from this office in a sealed envelope, directed to the undersigned and marked "Proposals for Courthouse at Morgantown, W. Va." 2d. As an evidence of good faith every proposal shall be accompanied by cash or certified check to the amount of three hundred dollars (\$300), made payable to the County Court of Monongalia County, in case the successful bidder shall fail for ten days after an award to execute the required contract and bond for the faithful performance of the terms of the contract. The checks of unsuccessful bidders will be returned to them immediately after the contract is awarded or all bids rejected. 3d. The right is reserved to reject any and all bids. 4th. Bidders are requested to be present at the opening of proposals. Morgantown, on the Monongahela river, may be reached by B. & O. R. or from Pittsburgh by daily line of steamboats. R. E. FAST, Secretary of Commissioners.

## SOUTHERN STOCKS.

## OFFICIAL QUOTATIONS BIRMINGHAM STOCK EXCHANGE.

Corrected Weekly by MARTIN & LEEDY, Stock and Bond Brokers, and Members  
Birmingham Stock Exchange.

SATURDAY, AUGUST 2, 1890.

STOCKS.		LAST DIVIDEND.		Per Cent.		Bids.		Asked.	
BANKS.		Organized.	Capital.	Par Value.	Declared.	on Stock.			
Alabama National	1886	1,000,000	100	100	July '90	a 4	110	115	
American National	1887	250,000	100	100	July '90	a 4	98	98	
Bank of Atlanta	1889	50,000	100	100	July '90	a 5	55 1/2	55 1/2	
Berney National	1886	300,000	100	100	July '90	a 5	126 1/2	126 1/2	
Birmingham National	1887	250,000	100	100	July '90	a 3	97	98	
Central Savings	1889	50,000	100	100	July '90	a 6	175	175	
City National	1889	100,000	100	100	July '90	a 6	184	184	
First National Bank of Gadsden	1884	250,000	100	100	July '90	a 6	145	145	
Jefferson County Savings	1887	50,000	100	100	July '90	a 6	106	106	
Birmingham Trust & Savings Co.	1887	500,000	100	100	July '90	a 3	100	100	
Mutual Loan & Trust Co.	1888	50,000	100	100	July '90	a 4	115	115	
People's Savings Bank & Trust Co.	1888	50,000	100	100	July '90	a 4	115	115	
RAILROADS.									
Birmingham Union Railway Co.	1887	1,000,000	50	50	.....	.....	25	25	
Birmingham & Ensley Railway Co.	1887	500,000	50	50	.....	.....	50	50	
North Birmingham Street R. R.	1887	65,000	50	50	.....	.....	45	45	
Highland Avenue & Belt R. R. Co.	1887	1,000,000	100	100	.....	.....	25	32	
South & North Alabama R. R. Co.	1887	.....	.....	.....	.....	.....	.....	.....	
MISCELLANEOUS.									
Avondale Land Co.	1884	150,000	100	100	Oct. '88	z	.....	.....	
Anniston City Land Co.	1887	3,000,000	100	100	July '87	q 4	56	58	
Alabama Coal & Iron Co.	1889	1,000,000	100	100	.....	.....	110	110	
Alabama-Connelly's Coal & Coke Co.	1886	500,000	100	100	.....	.....	60	60	
Alabama Rolling Mill Co.	1887	250,000	100	100	.....	.....	34	36	
Bessemer Land Co.	1887	2,500,000	100	100	May '87	q 2 1/2	35	35	
Birmingham Mining & Mfg. Co.	1887	150,000	100	100	Mch. '87	q 33	35	35	
Birmingham-Ensley Land Co.	1886	450,000	100	100	.....	.....	100	105	
Birmingham Ice Factory	1886	85,000	100	100	July '89	a 10	100	105	
Birmingham Soap Works Co.	1887	500,000	100	100	.....	.....	83	83	
Brooklyn Land Co.	1886	50,000	100	100	.....	.....	32	30	
Birmingham Furnace & Mfg. Co.	1886	1,500,000	100	100	.....	.....	15	15	
Camille Gold Mining Co.	1887	1,500,000	10	10	.....	.....	70	70	
Cahaba Coal Mining Co.	1887	1,400,000	100	100	.....	.....	15	15	
Chattanooga East End Land Co.	1887	1,000,000	100	100	.....	.....	15	15	
DeBardeleben Coal & Iron Co.	1887	4,000,000	100	100	.....	.....	14 1/2	14 1/2	
Decatur Land Imp. & Furnace Co.	1887	5,000,000	100	100	Oct. '87	q 3	800	950	
Decatur Mineral Land Co.	1887	350,000	100	100	Nov. 10 '87	q 3	108	108	
Elyton Land Co.	1871	300,000	100	100	July '89	a 4	10 1/2	10 1/2	
Edison Electric & Illuminating Co.	1886	100,000	100	100	June '87	n 50	75	85	
East Birmingham Land & R. R. Co.	1886	1,022,800	100	100	.....	.....	9 1/2	9 1/2	
East Lake Land Co.	1886	200,000	100	100	.....	.....	22 1/2	22 1/2	
Ensley Land Co.	1886	10,000,000	100	100	.....	.....	130	300	
Enterprise Manufacturing Co.	1886	100,000	100	100	.....	.....	21	21	
Eureka (Furnace) Co.	1887	.....	.....	.....	April '89	q 1	.....	6 1/2	
Florence Land & Mining Co.	1887	3,000,000	100	100	April '87	q 1	.....	24	
Gadsden Land Co.	1887	3,000,000	100	100	.....	.....	5	5	
Gate City Land Co.	1887	300,000	100	100	.....	.....	85	85	
Hecla Coal Co.	1888	300,000	100	100	.....	.....	100	100	
Henderson Steel & Mfg. Co.	1887	100,000	100	100	.....	.....	20	20	
Jefferson Building & Improvement Co.	1887	150,000	100	100	.....	.....	97 1/2	98 1/2	
Jagger-Townley Coal & Coke Co.	1887	350,000	100	100	.....	.....	199 1/2	100 1/2	
Leeds Land Co.	1887	150,000	100	100	.....	.....	70	70	
Mag Ellen Coal & Mining Co.	1887	100,000	100	100	.....	.....	5	5	
Mary Lee Coal & Railway Co.	1888	500,000	100	100	.....	.....	100	105	
North Birmingham Land Co.	1886	700,000	100	100	.....	.....	24	27	
Smithfield Land Co.	1886	850,000	100	100	.....	.....	60	60	
Sloss Iron & Steel Co.	1887	4,000,000	100	100	Apr. 15 '90	h 1	16 1/2	18	
South Anniston Land Co.	1887	750,000	100	100	Mch. '87	x 5	55	55	
Sheffield Coal & Iron Co.	1883	1,000,000	100	100	Feb. '88	5	90	90	
Thompson Brick Co.	1887	20,000	100	100	May 15 '87	.....	51	51	
Tennessee Coal & Iron Co.	1887	9,000,000	100	100	.....	.....	100	105	
Tennessee Coal & Iron Co., pref.	1887	1,000,000	100	100	.....	.....	24	27	
Tuscaloosa Coal, Iron & Land Co.	1887	1,000,000	100	100	.....	.....	60	70	
Vulcan Coal & Coke Co.	1886	100,000	100	100	.....	.....	5	5	
West End Land Co.	1886	175,000	100	100	.....	.....	40	40	
Woodstock Iron Co.	1887	3,000,000	100	100	.....	.....	.....	.....	

BONDS.		Amount Outstanding.	INTEREST.	Rate Per Cent.	Bids.	Asked.
Alice Furnace	.....	300,000	7	103	.....	.....
Birmingham Gas & Electric Light Co.	.....	340,000	8	92 1/2	.....	100 1/2
Birmingham Union Railway Co.	.....	500,000	6	108	.....	111
Birmingham Water Works	.....	400,000	6	111	.....	116
Cahaba C. & M. Co., 1st Mortgage	.....	750,000	8	97	.....	98 1/2
Caldwell Hotel	.....	150,000	7	109 1/2	.....	100 1/2
Elyton Land Co., Trust Bonds	.....	2,400,000	7	70	.....	80
Eureka (Furnace) Co.	.....	400,000	7	70	.....	70
Henderson Steel & Mfg. Co.	.....	50,000	8	93	.....	93
Mary Pratt Furnace	.....	100,000	7	67	.....	70
Sloss Iron & Steel Co., 1st Mortgage	.....	2,000,000	6	101 1/2	.....	101 1/2
" " 2d	.....	2,000,000	6	.....	.....	.....
Williamson Iron Co.	.....	60,000	8	.....	.....	.....
Tennessee Coal, Iron & R. R. Co.	.....	1,254,000	6	96 1/2	.....	.....
Tennessee Division	.....	3,640,000	6	100	.....	.....
Birmingham Division	.....	.....	6	.....	.....	.....

EXPLANATION.—a—For six months. q—Only dividend declared since organization. x—This company declared 5 per cent. February 1 also. z—Total dividends paid, 49 per cent. l—Dividend for one year, ending July 1, 1889. E—Sold hereafter Ex. is per cent. dividend. o—Dividend 3 per cent. paid in May '87, also October 1. n—Fifty per cent. dividend on Union R. R. Stock. h—Payable October 15, 1889. f—A 5 per cent. dividend has been paid quarterly since organization. w—For dividends refer to the company. \* \* \* May 6, '87, 50 per cent. cash; May 10, '87, 50 per cent. cash; Sept. 14, '87, 50 per cent. cash; Oct. 10, '87, 10 per cent. cash; Oct. 10, '87, 10 per cent. cash; Nov. 10, '87, 10 per cent. cash; Nov. 10, '87, 1200 per cent. in Elyton Land Company's Trust Bonds.

**FREDERIC TAYLOR & CO.**  
Bankers and Brokers,  
84 BROADWAY,  
NEW YORK CITY.

Members of the New York Stock Exchange.

**P. J. GOODHART & CO.**  
(Members of the New York Stock Exchange.)

24 BROAD STREET, NEW YORK.

Orders executed in New York and Boston for buying and selling stock of the

**Anniston City Land Co.**

We are prepared to carry same on \$10 per share MARGIN.

We make a specialty of all

**Southern Securities.**

**The Southern Investment Co.**  
J. J. BURNS, Manager.

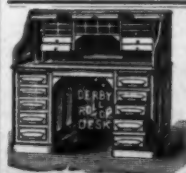
167 DEAR ORN STREET, CHICAGO, ILL.

BUY AND SELL

**Southern Real Estate,**  
CITY AND TOWN PROPERTY.

Mineral and Timber Lands,  
Mines, Mills, Furnaces  
and Factories.

**COLONIES ESTABLISHED.**  
Correspondence Solicited.



**DESKS,  
Chairs,  
Office Furniture**  
SEND FOR CATALOGUE.  
**DEWITT & KILMER DESK CO.**  
Salesrooms,  
opp. Lowell Depot,  
90 Canaway St., Boston.

## ALEX. BROWN &amp; SONS

ESTABLISHED 1811.

Cor. Baltimore and Calvert Streets,  
BALTIMORE, MD.

BROWN BROTHERS &amp; CO.

New York, Philadelphia and Boston.

Foreign and Domestic Bankers,

AND MEMBERS OF THE

Baltimore, New York and Philadelphia

Stock Exchanges.

(Private wire between Baltimore, Boston.

Philadelphia and New York.)

Interest allowed on deposits of

Banks, Bankers, Corporations and In-

dividuals (by agreement). Railroad,

Municipal &amp; other Loans Negotiated.

BUY AND SELL BILLS OF EXCHANGE

on Great Britain and Ireland, France, Germany,

Holland, British West Indies and other foreign

points.

Issue Commercial and Travelers'

Letters of Credit.

IN STERLING, available in any part of the

world; and IN DOLLARS, for use in this

country, Canada, Mexico, the West Indies and

South America.

Make Cable and Telegraphic Transfers

of Money.

Drafts Collected in all parts of the World.

BROWN, SHIPLEY &amp; CO., LONDON.

Baltimore Stock Exchange

Quotations.

Reported by ALEXANDER BROWN &amp; SONS, Bank-

ers, Baltimore.

BALTIMORE, August 6, 1890.

	BID.	ASKED.
--	------	--------

Virginia 6's Consols C.	49	51
-------------------------	----	----

Virginia 3 1/2 10-40's	39	41
------------------------	----	----

Virginia 3's, new	69	69 1/2
-------------------	----	--------

Virginia Consol Coupons, N. F.	25	27
--------------------------------	----	----

Virginia 10-40 Coupons, N. F.	25	27
-------------------------------	----	----

N. Carolina 4's	100	100
-----------------	-----	-----

N. Carolina 6's	128	128
-----------------	-----	-----

Wil. Col. & Aug.	107	110
------------------	-----	-----

Ga. Car. & N. S.	103	103
------------------	-----	-----

Wil. & Wel. Gold 7's	115 1/2	115 1/2
----------------------	---------	---------

Wil. & Wel. 5's	109 1/2	109 1/2
-----------------	---------	---------

Atlanta & Char. 1st 7's	103 1/2	103 1/2
-------------------------	---------	---------

Atlanta & Char. Income 6's	103 1/2	103 1/2
----------------------------	---------	---------

Col. & Green, 1st 6's	103 1/2	103 1/2
-----------------------	---------	---------

Col. & Green 2d 6's	84 1/2	85 1/2
---------------------	--------	--------

Va. Midland, ad. 6's	117	117
----------------------	-----	-----

Va. Midland, 3d 5 1/2	110	110
-----------------------	-----	-----

Va. Midland, 5th 5's	103	103 1/2
----------------------	-----	---------

Charlotte, C. & Aug. 1st 7's	109	109
------------------------------	-----	-----

West Va. Central 1st 6's	108 1/2	108 1/2
--------------------------	---------	---------

Ga. Pacific 1st 6's	112 1/2	112 1/2
---------------------	---------	---------

Ga. Pacific 2d 6's	79	79
--------------------	----	----

West. Nor. Car. Cons'd 6's, Gold	100 1/2	100 1/2
----------------------------------	---------	---------

Cape Fear & Y. Valley 6's, A.	105	105 1/2
-------------------------------	-----	---------

Cape Fear & Y. Valley 6's, B.	103	103
-------------------------------	-----	-----

Cape Fear & Y. Valley 6's, C.	104	104
-------------------------------	-----	-----

Cape Fear & Y. Valley 6's, D.	104	104
-------------------------------	-----	-----

Cape Fear & Y. Valley 6's, E.	104	104
-------------------------------	-----	-----

Cape Fear & Y. Valley 6's, F.	104	104
-------------------------------	-----	-----

Cape Fear & Y. Valley 6's, G.	104	104
-------------------------------	-----	-----

Cape Fear & Y. Valley 6's, H.	104	1
-------------------------------	-----	---

# CONSTRUCTION DEPARTMENT.

**WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.**

## The South's Prosperity.

The contrast between the West and Northwest and the South is being very strikingly brought out at present by the daily crop reports. In the former sections disastrous crop failures seem to be the order of the day. From Kansas comes the report of a corn crop of only 20 per cent. of last year's, while Dakota sends out doleful tales of short yields of cereals. In the South the farmers are rejoicing over the finest prospects known for many years, and the indications now point to the largest cotton crop ever raised, with prices high on account of the steadily increasing demand throughout the world for cotton goods. "Stanley," said the late Henry W. Grady, "is but an advance agent for American cotton goods;" for wherever civilization is pushed into new regions the demand for clothing necessarily follows. And so, while the South keeps on extending its cotton area and enlarging its crop, prices have for several years tended upwards.

Already the movement of cotton to the towns has commenced, and everywhere throughout the South the farmers are made glad by the prospects of an abundant harvest. This means a great surplus of money in that section which will still further help on the industrial development of the whole South. With prosperity ruling everywhere in the South, and New England and Western money crowding down to share in the profits that must follow the building up of such great industrial interests as our country has not yet seen, we may look for a season of wonderful activity from Maryland to Texas.

The past week has witnessed the organization of many enterprises. Following in the line of the steel works reported last week comes the contract for steel works at Middlesborough, Ky., to be built by English people at a cost of \$530,000; at Ashland, in the same State, plans are being matured for large steel works. In Alabama a \$25,000 flour mill company and a \$25,000 fertilizer factory company have been incorporated. In Arkansas a \$40,000 ice factory will be built. Virginia shows a \$50,000 hardware factory company at Basic City; \$300,000 boiler and machine works at Buena Vista; a \$200,000 rolling mill at Glasgow, to be removed from Ohio; a \$100,000 woolen mill company at Clifton Forge; \$500,000 company to build reduction works at Mineral City, and a \$100,000 woodworking company at Culpeper. In Texas a \$100,000 agricultural implement factory has been organized; \$50,000 iron work and a \$50,000 printing and lithographing company. All along the line the South is growing and prospering. Activity is seen everywhere, and the fall season will, we believe, show a degree of prosperity far greater than the South has ever before enjoyed.

\*Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

## ALABAMA.

**Anniston—Carriage Factory.**—The Anniston Carriage Works has been organized with J. A. Fry as president, and R. St. John, secretary, to operate the carriage factory of J. A. Fry. The plant will probably be enlarged.

**Attalla—Cotton Compress.**—The Attalla Compress & Fertilizer Co., mentioned in last issue, is putting new bollers in its compress and making other additions.

**Bessemer—Machine Shops.**—It is stated that the Birmingham, Powderly & Bessemer Street Railway Co., of Birmingham, recently mentioned, will rebuild its machine shops in Bessemer.

**Birmingham—Bottling Works, etc.**—The Christian Moerlein Brewing Co., of Cincinnati, O., will, it is reported, erect a \$25,000 cold storage and bottling plant in Birmingham.

**Birmingham—Tannery.**—Parties are prospecting with a view to establishing a tannery.

**Blountsville—Saw Mill.**—Another saw mill is reported as to be erected.

**Florence—Iron Furnace.**—The North Alabama Furnace, Foundry & Land Co. will hold a meeting on September 3d to consider the issuance of bonds to provide working capital for its iron furnace.

**Gadsden—Quarry.**—Gwin, Hicks & Lane, mentioned elsewhere in this issue as having contract for the erection of courthouse, will develop a stone quarry.

**Gate City—Coffin Factory.**—W. H. Morris, of Birmingham, has purchased, it is reported, the Gate City planing mill, and will convert same into a coffin factory.

**Greensboro—Electric-light Plant.**—C. A. Waller, A. H. Benner, Charles Stollenweck and others have organized a stock company to erect an electric-light plant.

**Greensborough—Water Works.**—It is stated that the city will issue bonds for the construction of the water works lately mentioned.

**Greensborough—Electric-light Plant.** A stock company is reported as being organized to erect an electric light plant.

**Leighton—Oil Well.**—The Alabama Asphalt, Oil & Mineral Co., previously reported, has commenced boring for oil.

**Milldale—Coke Ovens.**—J. A. P. Minor & Co. are contractors for 100 of the 200 coke ovens under construction for the Standard Coal Co., mentioned in last issue (under Brookwood).

**New Market—Oil Well.**—The Alabama Oil Co. is sinking an oil well.

**Opelika—Water Works.**—F. M. Renfro, recorder, writes that the city is ready to grant franchise for constructing the water works previously mentioned and contract for water.

**Opelika—Flour Mill.**—The \$25,000 stock company lately reported as organized will be known as the Opelika Flour Mills, and has for officers W. B. Shaphard, president; J. B. Trammell, secretary. A site has been purchased, and a mill with capacity for 300 barrels per day will be built.

**Opelika—Cotton Gin.**—The Opelika Iron Works is erecting a cotton gin.

**Prati Mines—Water Works.**—It is stated that a stock company will be organized to submit a proposition for the construction of a water works system.

**Selma—Electric-light Plant.**—The Selma Electric Light & Gas Co. will, it is reported, erect an incandescent electric-light plant.

**Shelby—Water Works.**—T. G. Bush, Anniston, Ala., will receive bids until August 15 for the construction of the water works recently mentioned in Shelby.

**Troy—Stave Factory.**—W. M. Green, of Omega, is erecting the stave factory mentioned in last issue.

**Troy—Ginnery.**—The Unanimity Alliance contemplates erecting a cotton ginnery near Blue's Mill.

**Troy—Bagging Factory.**—The Pike County Farmers' Alliance is making efforts to organize a stock company to erect a cotton bagging factory.

**Uniontown—Ice Factory.**—It is stated that a company has been formed to erect the ice factory previously mentioned.

**Uniontown—Cotton Compress.**—B. F. Harwood is reported as erecting the cotton compress previously reported, at a cost of \$35,000.

**Union Springs—Fertilizer Factory.**—The Guano Factory Co. is reported as organized with a capital stock of \$25,000 to establish a fertilizer factory.

## ARKANSAS.

**Arkadelphia—Ice Factory.**—It is stated that Robert Dawson will establish an ice factory.

**Benton—Nickle Mine.**—W. B. Walker, of New Mexico, is reported as to develop Mr. Whitthorne's nickle mine in Saline county.

**Camden—Ice Factory.**—F. W. Hicks, of Pine Bluff, will erect an ice factory to cost about \$40,000.

**Chicot County—Timber Land.**—The Elite Furniture Co., of Little Rock, has closed a deal for 70,000 acres of timber land.

**Little Rock—Oil Mills.**—The Farmers' Cooperative Cotton Seed Oil & Paper Stock Co., of which Hon. John B. Gordon, of Atlanta, Ga., is president, and L. L. Polk, of Washington, D. C., vice-president, is endeavoring to secure subscriptions to stock with a view to building cottonseed oil mills in the South, to be operated on the Evans process.

**Little Rock—Cotton Press Factory.**—The Thomas Manufacturing Co. contemplates enlarging its cotton press factory.

**Mammoth Springs—Electric-light Plant.**—The erection of an electric-light plant is projected. E. L. Hutchinson can give information.

**Morrilton—Electric-light Plant, &c.**—W. J. Stowers, M. D. Shelby, W. D. Delong and others have received charter to erect an electric-light plant and construct water works.

**Redfield—Saw Mill, &c.**—Crawford & Co. have, it is reported, purchased 1,600 acres of timber land near Redfield and erected a saw mill.

## FLORIDA.

**Bristol—Saw Mill.**—A stock company is reported as organized to erect a saw mill.

**Fernandina—Creosote Works.**—It is stated that additional buildings are being erected at the Fernandina Creosote Works for the distillation of the oil by a new process.

**Freeport—Turpentine Distillery.**—A turpentine distillery is reported as to be erected.

**Genoa—Lumber Mill.**—C. W. McMullin and C. W. Smith will add a new boiler and engine and a pony saw mill to their lumber mill.

**Madison—Artesian Well.**—The city has awarded contract to J. A. Durst, of Crescent City, to sink an artesian well.

**Mannfield—Phosphate Land.**—The Citrus County Hard Rock Phosphate Co., lately mentioned, has been incorporated with a capital stock of \$100,000.

**Marion County—Phosphate Land.**—L. J. Haisley, of Ocala, has sold 934 acres of phosphate land in Marion, Citra and Hernando counties to J. A. Harris, of Citra, for \$40,000.

**Ocala—Water Works.**—The election to consider the issuance of bonds to purchase the water works, recently reported as to be held on August 14, has been postponed to August 21.

**South Jacksonville—Fertilizer Factory.**—The fertilizer factory reported in last issue as to be built by the Little Bros. Fertilizer & Phosphate Co. will have a main building 75x125 feet, with a 10-foot platform extending around three sides.

**St. Augustine—Machine Shops.**—The Jacksonville, St. Augustine & Halifax Railway Co. (office, Jacksonville) will, it is stated, build machine shops in St. Augustine.

**Summerfield—Phosphate Land.**—Eph. Carney and Myron Gillett have, it is reported, purchased 1,000 acres of phosphate land near Summerfield.

## GEORGIA.

**Albany—Fertilizer Factory.**—Wight, Weslosky & Brown will erect a fertilizer factory in East Albany as lately reported.

**Americus—Cotton Mill.**—A. Randall, who has contract for the erection of the cotton bagging factory, is making efforts to organize a company to erect a 10,000-spindle cotton mill.

**Americus—Tin, Cooper and Sheet Iron Works.**—Schoeder & Strickland have, it is reported, established a manufactory of tin, copper and sheet-iron ware.

**Americus—Cotton Bagging Factory.**—A. Randall, of Griffin, has contract to erect the cotton bagging factory lately reported as to be established by the Southwest Georgia Alliance Manufacturing Co. The main building will be 50x146 feet, with a wing 24x70 feet.

**Atlanta—Land.**—W. A. Hemphill is president, and H. M. Cottingham secretary of the Park Avenue Land & Improvement Co. lately reported.

**Atlanta—Underground Wires.**—The city has adopted an ordinance requiring all telephone wires to be placed underground by 1893.

**Augusta—Land.**—The Carolina Heights Land Co. has been incorporated by F. L. Lockhart and G. H. Nixon. It has purchased 208 acres of land

at Carolina Heights, and will improve same. The capital stock is \$100,000.

**Barnesville—Ice Factory.**—The ice factory mentioned in last issue will be erected for the next season. G. L. Summers can give information.

**Brunswick—Canning Factory.**—The Brunswick Fish, Oyster & Vegetable Co. has been organized by M. Ulman, H. A. Lucas, C. Downing, Jr., and others to can and ship products of the field and water.

**Bunkley—Land.**—G. W. Duncan, of Macon, and L. P. Hillyer have secured an option on 1,000 acres of land on Cumberland Island, including Bunkley, and will, it is stated, organize a company to improve same.

**Cordele—Fertilizer Factory.**—The Cordele Guano Co., lately mentioned, has again increased its capital stock, making it \$100,000.

**Crawfish Springs—Iron Furnaces, &c.**—It is stated that the Crawfish Springs Land Co., lately mentioned, will build two iron furnaces and a number of coke ovens.

**Gainesville—Water Works.**—E. P. Chambers, clerk to water commission, will receive proposals until August 26 for constructing the water works lately mentioned.

**Jasper—Marble Quarries.**—The Piedmont Marble Co. is reported as opening marble quarries near Jasper.

**Rome—Machine Shop.**—A machine shop 40x60 feet is reported as to be erected. J. A. George can give information.

**Savannah—Brick-yard and Lumber Mill.**—The Fort Argyle Brick & Lumber Co., lately reported as chartered, has started a brick-yard, and will erect a saw and shingle mill. S. A. Roake, of Peekskill, N. Y., can give particulars.

**Savannah—Land.**—The Savannah Investment Co. is reported as having purchased the Waldburg property of 25 acres for \$125,000.

**Tennille—Laundry.**—A steam laundry will probably be established.

**Waynesboro—Grist Mill, &c.**—W. McCathern will, it is reported, increase the capacity of his grist mill and erect a cotton gin.

**Waynesboro—Land.**—J. K. Garnett, of Savannah, has, it is stated, purchased the Mill Haven place of 10,000 acres from Seaborn Jones for \$75,000.

## KENTUCKY.

**Ashland—Steel Plant.**—The steel plant which the Norton Iron Works and the Kelly & Belfont Mills, of Ironton, O., propose building, as lately stated, will cost from \$350,000 to \$400,000. It is said that \$100,000 of the capital stock has been subscribed in Ashland.

**Ashland—Planing Mill.**—Edward and John Hampton and Wm. Clark, of Catlettsburg, have, it is reported, purchased the planing mill of the Ashland Lumber Co., and will operate same.

**Cloverport—Planing Mill.**—J. R. Osborne will probably purchase and operate the Cloverport Planing Mill.

**Grayson—Stave Mill.**—George Stephens & Co. have, it is reported, erected a stave mill.

**High Bridge—Bridge, &c.**—It is stated that the Eastern capitalists recently reported as having purchased 1,100 acres of land adjoining Shaker-town will build a bridge over Cedar creek.

**Lexington—Electric light Plant.**—The electric-light plant previously reported as being erected by the Belt Land Co. will be operated by the Central Electric Co., shortly to be organized.

**Lexington—Saw Mill, &c.**—B. F. McCormick & Son, lately mentioned, have, it is stated, purchased \$30,000 of real estate, and will probably erect a saw mill.

**Louisville—Bridge.**—A resolution has been introduced in the city council to construct an iron highway bridge over Kentucky street at the expense of the city and the Louisville & Nashville Railroad Co.

**Louisville—Sewer.**—The mayor will receive proposals until August 12th for the construction of a 500-foot steel or wrought-iron sewer in Thirty-fourth street.

**Maysville—Laundry, &c.**—The Cannon Laundry & Bath Rooms will, it is reported, put in new machinery.

**Meadow Creek—Stave Factory.**—Mr. Phillips, of Williamsburg, will, it is reported, start a stave factory in Meadow Creek.

**Middlesborough—Mattress and Excelsior Factory.**—The Middlesborough Mattress & Excelsior Manufacturing Co., capital \$50,000, is erecting a mattress and excelsior factory.

**Middlesborough—Steel Works.**—Contract has been signed by J. P. Witherow & Co., of Pittsburgh, Pa., for the erection of the open-hearth basic steel plant previously reported as to be built by the Watts Iron & Steel Co.; contract price, \$339,000.

**Mt. Sterling—New Town, &c.**—R. H. Tomlinson, W. S. Millsap, J. N. Phipps and others

have incorporated the Midland City Land & Mineral Co. to build the new town of Midland City; it is also privileged to build iron furnaces, develop mines, &c. The capital stock is \$680,000.

Newport—Bridge.—It is stated that a new iron bridge will be built across Taylor's creek.

Newport—Iron and Steel Works.—The Northern and Covington capitalists recently mentioned as having optioned the property of the Newport Iron & Steel Works are reported as having purchased same for \$150,000.

Uniontown—Whiskey Distillery, &c.—A Philadelphia syndicate is reported as having purchased the whiskey distillery of J. G. Roach for \$100,000, and as to operate same for the manufacture of cognac spirits, rye whiskey, &c.

#### LOUISIANA.

Baton Rouge—Levee Works.—D. Kletz & Son have received contract for constructing the Valenzuela and Locust Grove levees; John Cleary, Scarsdale, St. Sophie and Harlem; G. P. Anderson, St. Anne to Oakville, and F. H. Allen, Leftwich.

Baton Rouge—Saw Mill.—A Michigan lumber company will, it is stated, erect a saw mill at Baton Rouge Junction.

Bermuda—Gin.—A. L. Prudhomme erected a cotton gin as lately reported.

Delhi—Levee Work.—H. P. Wells will receive bids until August 15th for the rebuilding of the broken levees between Arkansas City and Boggy bayou.

Loganport—Saw and Planing Mill.—The River Lumber Co. is reported as erecting a saw and planing mill.

Monroe—Laundry.—A \$50,000 stock company is reported as organized to erect a steam laundry.

New Orleans—Railway Switch Factory.—E. B. Wheelock is president; T. N. Miles, vice-president, and R. W. Bringham, secretary, of the Electrical Safety Railway Switch Co. (Limited), recently reported.

New Orleans—Ammonia Factory.—The Louisiana Ice Manufacturing Co. has, it is reported, established an ammonia factory.

New Orleans—Ammonia Factory.—It is stated that the Southern ice manufacturers will hold a meeting for the purpose of organizing a stock company to erect an ammonia factory either in New Orleans or Galveston, Texas.

Shiloh—Grist and Saw Mill, etc.—Neal Key has rebuilt his burned grist and saw mill and cotton gin.

Shreveport—Planing Mill.—Whited, Wheelock & Williams are, it is reported, erecting planing mill 70x40 feet.

#### MARYLAND.

Baltimore—Publishing.—The Journal of Commerce Publishing Co. has increased its capital stock to \$25,000.

Baltimore.—The Townsend Marine Invention Co. has been incorporated by Samuel Eccles Jr., R. J. Hollingsworth, S. C. Mason and others to operate automatic devices for ships. The capital stock is \$100,000.

Baltimore—Twine Factory, etc.—The Joseph S. Johnson Co. has been incorporated by Joseph S. Johnson, Joseph B. Casey, Henry Keidel and others to manufacture twines, netting, fishing tackle, etc. The capital stock is \$60,000.

Chestertown—Bridge.—It is proposed to either expend \$5,000 in repairing the bridge over Chester river, or replace it with an iron structure.

Federalburg—Creamery.—The Farmers' Alliance contemplates establishing a creamery.

Frederick—Ice Factory.—It is stated that a \$45,000 stock company will be organized to manufacture ice. David Lowenstein is probably interested.

Ridgely—Canning Factory.—A stock company has been organized with J. S. Ober as president, and H. W. Hynson as secretary, to establish a canning factory.

Rockville—Land.—H. N. Copp has purchased 300 acres of land from J. T. Vinson for \$50,000, and 35 acres from C. D. Luckett for \$9,500.

Sparrow's Point—Planing Mill.—The Williamsport & Chesapeake Lumber Co. has, it is reported, erected a planing mill.

Washington, D. C.—Stone and Shells.—P. C. Hains will receive proposals until August 30 for furnishing and delivering at Fort Monroe, Va., about 1,800 cubic yards of rip-rap stone and about 50,000 bushels of oyster shells.

Washington, D. C.—Land.—F. G. Neulands, J. B. Winner, George Truesdell and others have, it is reported, purchased the W. W. Phelps property, at Boundary and Connecticut avenues, for \$250,000.

Washington, D. C.—Printing Office.—George E. Lemon is erecting a three-story brick printing office to be 50x125 feet.

#### MISSISSIPPI.

Greenville—Elevator.—The Greenville Elevator & Warehouse Co. has contracted with the Livermore Foundry & Machine Co., of Memphis, Tenn., for the erection of a grain elevator.

Senatobia—Land.—R. C. Garrett has, it is stated, purchased the D. D. Salmon property for \$5,000.

Starkville—Fertilizer Factory.—It is stated that a stock company has been organized to manufacture fertilizers.

Vicksburg—Ice Factory.—J. P. Roach is president, and T. W. Deason, secretary, of the Consumers' Ice Co., lately mentioned. The company's capital stock is \$30,000.

#### NORTH CAROLINA.

Burgaw—Saw Mill, etc.—E. M. Johnston is erecting a saw mill on Peggie's Island, and may add a planing mill and dry-kiln.

Charlotte—Oil Mills, &c.—A. T. Schmid, T. S. Diffy and D. A. Tompkins have incorporated the A. T. Schmid Co. to construct oil mills, &c. The capital stock is \$12,000.

Durham—Fertilizer Factory.—It is stated that the Durham Fertilizer Factory has commenced work on its fertilizer factory previously reported as to be rebuilt.

Greensboro—Flour Mill.—Ross & Willis, lately mentioned, will, it is reported, add flour mill machinery to their grist mill.

Long Creek—Saw Mill.—Winfield Larkins contemplates adding a light saw mill to his gin and grist mill.\*

Madison—Woodworking Factory.—The erection of a woodworking factory is projected.

Marion—Woodworking Factory.—M. H. Roberts, of Augusta, Ga., contemplates erecting the woodworking factory reported in last issue.\*

North Carolina—Lighthouse.—Contract for the construction of the lighthouse on Diamond Shoal off Cape Hatteras has been awarded to Anderson & Barr, of Jersey City, N. J., at \$485,000.

Raleigh—Ice Factory.—J. N. Wiggins, of New York, has, it is reported, purchased the Jones & Powell ice factory; will improve and operate same.

South Washington—Grist Mill and Gin.—A. B. Croom is erecting a grist mill and cotton gin at Croom Bridge.

Tarboro—Land.—Reuben Foster, of 530 Light street, Baltimore, Md., purchased the 200 acres of land mentioned in last issue.

Washington—Machine Shop.—E. T. Stewart will rebuild his machine shop recently reported as burned, erecting a building 124x27 feet.

Weldon—Grain Elevator.—The Roanoke Navigation & Water Power Co. is reported as erecting a grain elevator with a capacity of 12,500 bushels.

Weldon—Brick Works.—The Weldon Brick & Land Improvement Co. has been organized with W. E. Daniel as president, and J. T. Gooch, secretary, to build brick works. The capital stock is \$10,000.

Wilkesborough—Brick-yard.—Smoak & Hatchett have, it is reported, started a brick-yard.

Wilmington—Cotton Mills.—The Wilmington Cotton Mills Co., recently mentioned, is reported as erecting an additional building 70x100 feet.

#### SOUTH CAROLINA.

Charleston—Wharf, &c.—H. S. Cordes is president; J. T. Hubbard, vice-president, and Mr. Middleton, secretary, of the Marine Wharf & Storage Co., reported in last issue.

Crofts—Fibre Factory.—The Pine Cloth & Fibre Manufacturing Co., incorporated by T. G. Croft, A. L. Washburn, Godfrey Wheeler and others, will soon organize.

Florence—Woodworking Factory.—William Lynch, of New York, is investigating with a view to move his saw, door, blind and woodworking factory to Florence.

Florence—Laundry.—L. O. Jones will, it is reported, establish the Dixie Steam Laundry.

Gaffney City—Lime Works, etc.—The necessary capital has been secured for the building of the lime works referred to in last issue, and the company has been organized with A. N. Wood, president. It will also erect a barrel factory and saw mill.\*

Gibsonville—Flour Mill.—A \$10,000 stock company is reported as organized with B. Davidson, president, and J. A. Davidson, secretary, to erect a roller flour mill.

Greenville—Cotton Mill.—The Camperdown Cotton Mills, mentioned in last issue, is putting two new turbine water wheels in its No. 1 mill.

Hinson—Distillery.—Isahm Hinson has rebuilt his turpentine distillery lately reported as burned.

Port Royal—Dry-dock.—Commodore N. H. Farquhar, chief of bureau of yards and docks, Washington, D. C., will soon call for proposals for the construction of the dry-dock previously referred to at a cost of not more than \$500,000.

Spartanburg—Publishing.—Joseph Walker, D. E. Converse, J. B. Cleveland and others have incorporated the Spartanburg Publishing Co. to publish a daily newspaper. The capital stock is \$10,000.

Yorkville—Water Works.—The National System of Water Works Co., Washington, D. C., has made a proposition to construct water works.

#### TENNESSEE.

Athens—Ice Factory.—The erection of an ice factory is projected.

Bristol.—The Southwest Bristol Land Co. has been organized with J. R. Pace, president; G. P. Cannon, vice-president, and H. G. Peters, secretary. The capital stock is \$300,000.

Chattanooga—Stove Factory.—G. O. Ide has with others commenced the manufacture of his patent oil heating stove, referred to in last issue.

Chattanooga—Land.—E. E. Buck, W. G. McAdoo, J. M. Goad and others have incorporated the Arlington Land & Improvement Co. to improve land, etc. The capital stock is \$100,000.

Chattanooga—Printing Office.—The News Publishing Co. has purchased a Web stereotyping press, and will probably add a 15 horse-power boiler and engine.\*

Chattanooga—Fire-brick and Sewer pipe Works Montague & Co. have, it is reported, put in new machinery.

Chattanooga—Ice Factory.—Two 10-ton ice machines will be erected at the Chattanooga Brewery. E. D. Kohn can give particulars.\*

Chattanooga—Malleable Iron Plant.—The Ross-Mehan Brake Shoe Foundry Co.'s malleable iron plant, mentioned in last issue, will have two wings, one 70x400 feet and the other 70x300 feet. It is stated that a separate company will operate the plant.

Cookeville—Land.—Nashville and Lebanon parties will, it is reported, purchase the Bloomington Springs property.

Cowan—Iron Furnace.—It is stated that the Tennessee Coal, Iron & Railroad Co., of Nashville, will put in blast its Sewanee furnace.

Ducktown—Copper Mines.—The Standard Oil Co. has, it is reported, leased the Ducktown copper mines, previously mentioned, and will develop same.

Dunlap—Coal and Iron Lands, &c.—J. H. Hoffecker, of Wilmington, Del., is president; J. H. Russell, of Olustee, Fla., first vice-president, and C. F. Adams, of Jacksonville, Fla., secretary, of the Dunlap Coal, Iron & Railway Co. recently reported.

Gallatin—Hub and Spoke Factory.—Dr. William Morrow, of Nashville, is president, J. C. Rodemer vice-president, and Arthur Fitzgerald secretary, of the Tennessee Hub & Spoke Co., lately mentioned.

Iron City—Tobacco Factory.—It is reported that another tobacco factory has been established.

Iron City—Iron Ore.—It is stated that the Smith & Sharp Mining Co. has contracted to furnish 300,000 tons of iron ore to the Florence Cotton & Iron Co., at the rate of 100,000 tons per year.

Kingston—Stove Foundry.—A stove foundry will probably be erected.

Loudon—Lumber Mill.—The Loudon Lumber Co., previously reported, is, it is stated, putting in new machinery.

Memphis—Case Factory.—The Commercial Association is reported as offering inducements to the Batchelder Egg Case Co., of Helena, Ark., for the removal of its egg case factory to Memphis.

Memphis—Cotton Compresses.—It is stated that the Buyers' & Factors' Compress Co. and the Merchants' Cotton Press & Storage Co. will consolidate.

Memphis—Paving.—M. Larkin has received contract to pave Shelby and Union streets at \$37-113-74.

Morristown—Saw Mills.—The Land, Timber, Iron & Marble Development Co. owns the 25,000 acres of timber land in Cocke and Sevier counties lately referred to, and will develop as previously reported, locating saw mills on the property and woodworking machinery in Morristown.

Nashville—Land.—The East Addition Real Estate Co. has, it is reported, purchased a 34-acre tract of land from Andrew Allison for \$100,000.

Nashville—Packing-houses, Fertilizer Factory, &c.—Negotiations are pending for the erection of two cold-storage packing-houses, a fertilizer factory and a glue factory; also the establishment of a large stock-yard. It is intended to have each operated by a separate corporation, and be constructed at a total cost of \$500,000. O. H. Hight, secretary of the Merchants' Exchange, can give particulars.

Trenton—Water Works.—The city has decided by a popular vote to issue \$20,000 of bonds for the construction of the water works previously mentioned.

#### TEXAS.

Abilene—Jewelry Factory.—It is stated that a jewelry factory will be started.

Atlanta—Ice Factory.—A stock company is reported as organized to erect an ice factory.

Aubrey—Ginnery.—Caddell Bros. have added another cotton gin to their plant.

Aubrey—Ginnery.—J. G. Powledge has put in an additional cotton gin.

Belton—Artesian Well.—A \$10,000 stock company has been organized to sink an artesian well to supply the water works.

Brazos—Zearing & Ingalls will rebuild their cotton ginnery, lately reported as burned.\*

Brenham—Oil Mill.—The Brenham Cotton-seed Oil Mill, referred to in last issue, is said to have been purchased by the Brenham Compress Co.

Clarksville—Artesian Wells.—H. B. Wright is investigating with a view to the organization of a company to bore for artesian water.\*

Comanche—Canning Factory, &c.—The Board of Trade contemplates the establishment of a canning factory and cotton-seed oil mill.

Dallas—Electric-light Plant.—The Dallas Electric Light Co. contemplates changing its lighting system to the Wood arc light, putting in new dynamos, etc.

Dallas—Flow and Implement Works.—The University Flow & Implement Co. has been incorporated with a capital stock of \$100,000.

Denison—Ice Works.—The Denison Crystal Ice Co. is, it is reported, putting in new machinery.

Denison—Viaduct.—The city will advertise for bids for the construction of an 1,800 foot viaduct, 20 feet wide, across the railroad at Gandy street.

Floresville—Cotton Gin.—A cotton gin is reported as being erected.

Fort Worth—Iron Works.—The Moore Iron Works, with a capital stock of \$50,000, has been incorporated by J. F. White, W. B. Manchester, C. E. Lee and others.

Fort Worth—Land.—Fort Worth capitalists are reported as having purchased 800 acres of land on Padre island to build a new town.

Fort Worth—Ice Factory.—It is stated that the South Side Artesian Ice Co. is being organized to erect an ice factory, the capital stock to be \$25,000.

Galveston—Cracker Factory.—The American Biscuit & Manufacturing Co., of Chicago, Ill., has, it is reported, purchased the Lone Star cracker factory for \$19,000.

Garrison—Brick and Pipe Works.—G. F. Arnold, of Houston, will organize a \$50,000 stock company to establish the brick and sewer-pipe works lately mentioned.\*

Groesbeck—Bridges.—Contract has been let at \$8,450 for the construction of two iron bridges across the Navaota river, one at Groesbeck and the other at Rocky Crossing.

Hatchie—Grist Mill and Gin.—W. E. Pipkin has rebuilt his grist mill and cotton gin and may add circular saw.\*

Hempstead—Oil Mill.—A cotton-seed oil mill is reported as to be erected.

Houston—Lithographing, &c.—J. J. Pastoriza, Camille Pilot and J. H. Brown have incorporated the Pastoriza Printing & Lithographing Co. The capital stock is \$50,000.

Llano—Lithographing, &c.—W. A. Miller, T. A. Miller, of Travis county, and others have incorporated the Iron City News Printing & Lithographing Co. with a capital stock of \$35,000.

McGregor—Artesian Well.—A stock company has been organized to sink an artesian well, as reported in last issue.

Mineral City—Land.—It is stated that W. S. Booth, of Hereheim, has purchased 1,700 acres of land near Mineral City for about \$10,000.

Morgan—Ice Factory.—A 4 or 5-ton ice machine will probably be erected at the Morgan Water Works. Address James Muirhead, Box 595, Waco.\*

Orange—Lumber Mill.—Lutcher & Moore are reported as putting in new machinery.

Orange—Saw Mill.—The Wingate Lumber Co., mentioned in last issue as chartered, will erect a saw mill with capacity for 100 M feet of lumber per day.\*

Palestine—Water Works.—The Palestine Water Co. will, it is reported, construct one mill of mains.

Rusk—Shingle Mill.—Wicks & Holcombe are erecting a shingle mill.

San Angelo—Salt Well.—The Titus Machine & Tool Co., previously mentioned, has sunk a salt well.

San Antonio—Water Works.—It is rumored that the city will purchase the water works of the San Antonio Water Works Co.

San Antonio—Garbage Furnaces.—It is stated that the city will construct two Engle garbage furnaces.

Santo—Cotton Gin and Grist Mill.—A cotton gin and grist mill are reported as erected.

Tyler—Candy Factory.—A candy factory has, it is reported, been started.

Tyler—Woodworking Factory.—It is reported that a fancy woodworking factory will be started.

Tyler—Publishing.—A stock company is reported as organized to publish a daily and weekly newspaper.

Waco—Electric Plant.—The Citizens' Railway Co. is erecting a plant to operate its street-car line by electricity.

#### VIRGINIA.

Basic City—Hardware Factory.—The Basic City Hardware Co., recently reported as to erect a hardware factory, has been incorporated by Arthur Fitzpatrick, D. H. Fitzgerald, James Bumgardner, Jr., and others. The capital stock is \$50,000.

Basic City—Land, &c.—The Waynesboro & Basic City Land Co. has been organized with H. W. Crowie, of Baltimore, as president; D. S.

Henkel, vice-president, and A. R. Rosenberger, secretary, purchased the B. F. Smith farm of 135 acres, and will lay it off into town lots, streets, &c. The capital stock is \$100,000.

Bedford City.—It is stated that Richmond parties will erect a planing mill and lumber yard.

Bedford City—Knitting Factory.—A knitting factory and a flour mill will, it is reported, be established.

Bedford City—Knitting Mill.—S. H. Harkley, of Columbia, S. C., is reported as to erect a knitting mill in Bedford City.

Bedford City—Planing Mill, etc.—E. W. Marable contemplates erecting a planing mill and sash, door and blind factory.

Big Stone Gap—Coal Mines.—Ferguson & Vaughn, of Roanoke, will, it is stated, open coal mines at Roaring Fork.

Buchanan—Bridge, etc.—The Central Land Co. has let contract for bridge across James river; also building a 6½-mile boulevard.

Buchanan—Machine Works.—The erection of works to manufacture roller process flour mill machinery is projected. C. L. Wilson can furnish information.

Buena Vista—Boiler and Machine Works.—A \$300,000 stock company has, it is stated, been organized to establish the boiler and machine works previously mentioned.

Clifton Forge—Woolen Mills.—The Clifton Forge Woolen Mills Co. has been organized with T. P. Bowles as president, and S. R. Patton, of Ronceverte, secretary, to remove to Clifton Forge the Greenbrier Valley Woolen Mills, of Patton, W. Va., recently mentioned. The capital stock is \$100,000.

Clifton Forge—Carriage and Wagon Factory.—A carriage and wagon factory will, it is reported, be erected.

Colliertown—Mineral Land.—The Virginia Development Co. is reported as having optioned 2,000 acres of mineral land from R. G. Campbell.

Culpeper—Blind Factory.—Absalom Baird and others, of Washington, D. C., have incorporated a \$100,000 stock company to manufacture the Hawley venetian blind.

Glasgow—Rolling Mill.—It is stated that the Lawrence Iron Works, of Ironton, Ohio, will move its rolling mill to Glasgow.

Glasgow—Iron Furnaces.—It is stated that the Glasgow Furnace Co. has commenced work on the construction of its two iron furnaces, recently mentioned.

Graham—Land.—The reported purchase of land by the Graham Land & Improvement Co., mentioned in last issue, was an error, the property in question having been secured by that company some time since, and is now undergoing extensive improvements.

Harris Creek—Bridge.—L. D. Stilwell will receive bids until August 16 for the construction of a bridge across Harris' creek at Strange's mill; span 65 feet, height 12 feet.

Low Moor—Ore and Timber Land.—The parties recently reported as having purchased the Harry Karnes property, have incorporated the Low Moor Mining & Development Co. with S. M. Yost, of Staunton, as president; Ham Shepard, vice-president, and John McQuaide, secretary.

Lynchburg—Machine Works.—G. W. Talley, of Williamsport, Pa., has received contract for the construction of the buildings for the Valley Engine & Machine Works, mentioned in last issue.

Lynchburg—Land.—The East Lynchburg & James River Development Co. has been organized with C. T. Plunkett as president; C. T. Larus, vice-president, and J. M. Williams, secretary, to improve land.

Lynchburg—Freezer Factory.—It is stated that a factory will be established for the manufacture of the Economy ice cream freezer.

Luray—Implement Works.—The Luray Agricultural Implement Works has been organized with S. G. Gilmer as president and H. V. Hudson, secretary to establish the implement works lately mentioned. The capital stock is \$10,000.

Luray—Publishing.—A \$10,000 stock company is being organized to publish a newspaper. E. C. R. Humphries is to be editor.

Mineral City (P. O. Louisa C. H.)—Reduction Works.—A \$500,000 stock company has been organized to build the reduction works previously mentioned. The ore is to be taken from the Walten mine. The Mineral City Mining, Manufacturing & Land Co. can give particulars.

Mineral City (P. O. Louisa C. H.)—Acid and Phosphate Works.—The United States Chemical Works Co. is the \$1,300,000 stock company reported in last issue (under Tolersville) as organized. It has contracted to purchase the Arminius copper property and erect sulphuric acid and phosphate works.

Mineral City—Tin Works.—A company has been formed with W. H. Young, president, to build tin works.

New River—Land.—The New River Land & Development Co. has, it is stated, purchased 93 acres of land from C. C. Kasey for \$23,250.

Norfolk—Land.—The Lambert's Point Improvement Co. have, it is stated, purchased 32 acres of land at Lambert's Point from Marshall & Jones for \$25,000.

Pulaski City—Iron Furnace and Machine Shops.—The Pulaski Iron Co. has blown out its iron furnace, and will, it is stated, reline same and erect machine shops.

Radford—Iron Furnace.—The Radford Crane Iron Co., lately reported as to build an iron furnace, has, it is stated, broken ground for a furnace to be 18x75 feet.

Radford—Ice Factory.—The Virginia Ice Co. has been organized with G. R. W. Armes as president and E. J. Collins, secretary, to erect an ice factory.

Radford—Land.—J. R. Jordan, referred to in last issue, purchased 152 acres of land on the north side of the New river, and will organize a \$75,000 stock company.

Richlands—Water Works.—Contract is reported as let for the construction of the water works previously mentioned. The Clinch Valley Coal & Iron Co. can give information.

Richmond—Printing Office.—The Times Publishing Co. will remove its printing office to a new building and put in additional machinery.

Roanoke—Ice Factory, etc.—The Virginia Packing House & Cold Storage Co., lately reported as being organized by Herman Crueger to erect a cold-storage plant, also proposes to build an ice factory.

South Boston—Buggy Factory.—The Barbour Buggy Co., previously reported as to enlarge its factory and to probably be incorporated, will be chartered with a capital stock of not less than \$40,000 nor more than \$100,000.

Stuart—Silver Mines.—J. T. Morehead, of Statesville, N. C., has commenced operations at the Hurd silver mines, recently mentioned.

Suffolk—Hosiery Factory.—A Northern party has made a proposition to establish a \$150,000 hosiery factory.

Tacoma—Coal and Timber Lands.—J. C. Stamps, A. B. Rogan, A. D. Simpson and others have organized the Tacoma Mining & Transportation Co. to develop 6,000 acres of coal and timber land in Wise county.

Tacoma (P. O. Big Stone Gap)—Planing Mill.—W. E. Kilgore and P. W. Carter operate the planing mill lately referred to.

Tacoma (P. O. Big Stone Gap)—Saw Mills.—The two saw mills lately referred to are operated by Hon. G. W. Kilgore and Hon. W. F. Miller, respectively.

Vinton—Stone Quarry.—W. A. Pedigo is developing a stone quarry, as reported in last issue.

Waynesboro—Land, &c.—The Amazon Mineral Springs Co. has been organized with J. C. Spofford, of New England, as president; R. N. Pool, of Staunton, vice-president, and F. A. Osborne, of Boston, Mass., secretary, purchased the Amazon Mineral Springs and will improve same.

Waynesboro—Plumbing Works.—The Pike Manufacturing Co., of Boston, Mass., has investigated with a view to removing its plumbing works to Waynesboro.

Waynesboro—Knitting Factory and Woolen Mill.—It is stated that a New England syndicate, represented by W. B. Guild, of Boston, Mass., and M. E. Holtzner, of Staunton, Del., will erect a three-story woolen mill 154x54 feet, and a two-story knitting factory 40x60 feet.

Wytheville—Knitting Factory.—W. Krennings, of Celina, O., has organized an \$18,000 stock company to move his knitting factory to Wytheville.

#### WEST VIRGINIA.

Bluefield—Iron Works.—A corrugated iron building will be erected at the Bluefield Iron Works, and new machinery added.\*

Buckhannon—Electric-light Plant.—The Buckhannon Electric Light Co. has been incorporated to furnish electric-light, heat and power.

Ceredo—Powder Mill.—The Continental Powder Co., lately reported as to build a powder mill, has been incorporated at Huntington with a capital stock of \$1,000,000.

Charleston—Oil Wells.—D. W. Reynolds, of St. Mary's; W. H. Curry, Alonzo Pollack and others, of Wheeling, have chartered the Red Letter Oil & Gas Co.

Charleston—Land.—The Standard Oil Co., of Ohio, has, it is reported, purchased 35,000 acres of timber land in Putnam, Jackson and Kanawha counties from D. G. Courtney, of Pennsylvania.

Gauley Bridge—Lumber Mill, &c.—A. J. & N. J. White, John Foster and others have incorporated the Gauley Tie & Lumber Co. to manufacture lumber, ties, &c. The capital stock is \$7,500.

Grafton—Ice Factory.—The Tygart Valley Ice Co. contemplates enlarging its ice factory.

Haddix—Saw Mill.—W. H. Dasher & Co., mentioned in last issue (under Parsons), contemplate putting gang edge and lath machinery in their saw mill.\*

Harper's Ferry—Land and Manufactories.—Mr. Baker, of New York; M. J. Bunnell, of Washington, D. C., and W. W. Rochester, of Rochester, N. Y., have purchased Virginus Island, near

Harper's Ferry, and will, it is reported, organize a \$200,000 stock company to establish manufactories.

Huntington—Picture Frame Factory.—D. E. Abbott will establish a picture frame factory as stated in last issue.

Loudersville—Manufacturing, &c.—The Loudersville Milling & Manufacturing Co. has been incorporated with a capital stock of \$4,100.

Lost Creek—Flour Mill.—W. B. Cookman, of Rockford, is moving the flour mill mentioned in last issue to Lost Creek.

Mannington—Oil Wells.—Taylor, Burt & Lashaw will, it is reported, sink two oil wells on the Wilson property.

Parkersburg—Nail Factory.—The establishment of a nail factory is proposed.

Piedmont—Electric-light Plant.—The Piedmont Pulp & Paper Co. is erecting an electric-light plant as stated in last issue.

Wheeling—Bridge.—Paige, Carey & Co. have received contract to construct the stone bridge over Wheeling creek at Main street, lately reported.

Wheeling—Machine Shops.—The Cleveland, Lorain & Wheeling Railroad Co. will, it is reported, build machine shops.

White Sulphur Springs—Coal and Iron Mines.—The Beaver Lick Iron Co. is developing its coal and iron property mentioned in last issue.

#### BURNED.

Henderson, Ky.—The picker-room of the Henderson Cotton Mills; reported loss \$3,000.

Louisville, Ky.—The slaughter-house of J. E. Kammer.

Lovettsville, Va.—The Lovettsville cheese factory.

Memphis, Tenn.—The printing office of E. Whitmore; reported loss \$40,000.

### Building Notes.

Abbeville, Ga.—Hotel.—The Abbeville Hotel Co. has been organized by J. P. Williams, J. R. Allison, Jesse Lott and others to erect the hotel previously reported as projected; capital stock \$25,000.

Aiken, S. C.—A branch of the Farmers' Savings, Building & Loan Association of Nashville, Tenn., has been organized with L. C. Ligon, president, and Walter Ashley, secretary.

Amite City, La.—A branch of the New South Building & Loan Association of New Orleans, La., has been organized with D. H. Sanders, president, and J. J. Lautier, secretary.

Amory, Miss.—The Baptists and Methodists are, it is reported, each erecting a church.

Atlanta, Ga.—Hon. W. H. Venable has offered to donate granite for the erection of the Masonic building previously referred to, provided that the building shall be seven stories high.

Birmingham, Ala.—The Gilreath Construction Co. has secured contract for the erection of the church lately reported as to be built by the Methodist Episcopal South congregation; cost about \$100,000. Address Belton Gilreath for information.

Bristol, Tenn.—Work has been commenced on the building to be erected for Anderson & Caldwell. A. B. Carr has contract.

Brunswick, Ga.—Work will, it is stated, be commenced within 60 days on the building to be erected by the Knights of Pythias.

Columbia, Tenn.—The Cahill Iron Works, of Chattanooga, confirm the recent report that they have contract for furnishing all cast-iron columns for the U. S. arsenal lately referred to.

Cordele, Ga.—The Cordele Alliance Co-operative Co. will, it is reported, erect a large warehouse.

Cumberland, Md.—Preparatory work has been commenced on the erection of the building for the Third National Bank.

Elkton, W. Va.—Hotel.—The Elkton Improvement Co. will, it is stated, commence work on its hotel, previously referred to, about October 1; cost \$50,000.

Gadsden, Ala.—Gwin, Hicks & Lane confirm the report of last week that they have contract for erecting the Etowah county courthouse at \$46,500.

Germanont, N. C.—The Farmers' Warehouse Co. is the name of the company lately reported as erecting a warehouse.\*

Greenville, Tenn.—The Mutual Building & Loan Association has been organized with a capital stock of \$25,000,000. John M. Brabson is president; W. H. Piper, secretary, and W. H. O'Keefe, treasurer.

Johnson City, Tenn.—Hotel.—The Kentucky Hotel Co., previously mentioned, writes that it will erect a 50-room hotel. B. L. Conway can give information.\*

Leesville, N. C.—The Leesville College Co. has been chartered with D. D. D. Mitchell, president.

Little Rock, Ark.—D. Reeve intends erecting a residence to cost \$7,000.

Memphis, Tenn.—L. B. Wheeler, architect, Main and Union streets, will receive proposals until August 20 for the erection of the seven-story brick office building lately referred to. W. Randolph will erect the building; cost \$140,000.

Memphis, Tenn.—John J. Leonard confirms the recent report that he has contract for the Shelby county insane asylum.

Milldale, Ala.—The Standard Coal Co. will erect about 50 houses for employees.

Middletown, Va.—Hotel.—The Middletown Land & Improvement Co. will, it is reported, shortly commence work on its hotel, previously referred to.

Monroe, La.—James H. Windrim, supervising architect, U. S. Treasury Department, Washington, D. C., will receive proposals until August 12 for the erection of the U. S. courthouse and post-office building, except heating apparatus.

Morgantown, W. Va.—R. E. Fast, secretary to county commissioners Monongalia county, will receive proposals until September 1 for the erection of a jail to be built according to plans of John C. Fulton, architect. Specifications may be obtained upon application to R. E. Fast.

Myers, Fla.—Green & Thompson confirm the late report that they have contract for erecting the county courthouse. They will use iron fronts.\*

Opelika, Ala.—A branch of the New South Building & Loan Association, of New Orleans, La., has been organized with T. P. Hudson, president, and N. P. Renfro, secretary and treasurer.

Reidsville, Ga.—C. W. Smith, chairman building committee, will receive proposals until September 8 for the erection of the Tattnall county jail, to be built of brick.

Richmond, Va.—James D. Patton will erect a brick residence to cost about \$10,000. Contract let to W. G. Hunt.

Richmond, Va.—Allen E. Donnan will erect a residence to cost \$10,000. W. G. Hunt has contract.

Richmond, Va.—The Old Dominion Building & Loan Association has adopted a resolution authorizing an increase of capital stock to \$20,000,000.

Roanoke, Va.—The Methodist Seminary intends, it is stated, erecting a school building to cost \$20,000.

Roanoke, Va.—Architect Ruchmund, of Richmond, has prepared plans for the erection of a church for the Lutheran congregation.

Rome, Ga.—A branch of the Georgia Co-operative Loan Co. has been organized with W. H. Adkins, president, and W. A. Billingsly, treasurer.

Savannah, Ga.—The Georgia Hussars are said to have purchased site for the erection of their armory. W. W. Gordon can give information.

Searcy, Ark.—J. E. Skillern, chairman building committee, will receive proposals until August 15 for the erection of the building for the Searcy Male College.

Suffolk, Va.—Work has been commenced on the new town hall and market building, previously referred to.

Thomas, Ala.—The Pioneer Mining & Manufacturing Co. will, it is stated, erect 100 dwellings for the workmen of the Thomas Furnace.

Washington, D. C.—Charles Walter will remodel a building to cost \$6,000; Rev. Dr. McKim will also remodel a building to cost \$25,000; F. D. Heckman and R. C. Ballinger will erect 36 dwellings to cost about \$75,000; M. W. Beveridge, a warehouse and store to cost \$30,000; John Miller, a dwelling to cost \$8,000; F. R. Brooks, a dwelling to cost \$8,500; Farnham & Chappell, 3 dwellings to cost \$7,500; Mary J. Orendorff, a dwelling to cost \$6,000; Maryland Baptist Mission, a church to cost \$5,000; Miles Church, a chapel to cost \$16,000.

Washington, D. C.—George E. Lemon is erecting a building three stories high, 50x125 feet in size, for the National Tribune.

Waynesboro, Va.—Hotel.—John C. Spofford, of Boston, Mass., is preparing plans for the erection of the hotel previously reported as to be built by the Amazon Springs Hotel Co.

Wheeling, W. Va.—Plans have been completed for the four-story building to be built by Peleson Bros.

THERE are two Glasgows which are attracting considerable attention at present. One is Glasgow, Va., which is making rapid strides under able management, and the other, Glasgow, Ky., a town that owes its prosperity principally to its oil wells. It is thought that Barren county, in which Glasgow, Ky., is situated, will become a great oil-producing region. Three weeks ago the Glasgow Land & Improvement Co. was organized, and has already, it is said, purchased about \$20,000 worth of property in the town.

### The Manufacturers' Record in New England.

Accompanying the growth of New England interest in Southern investments and development there is an increasing demand in that section for the MANUFACTURERS' RECORD. Among other letters recently received is the following from Mr. H. D. Gilbert, of East Boston, Mass.:

Please send me MANUFACTURERS' RECORD one year. I find it just what one who is interested in the South wants.

And so it goes from Maine to Texas. Great is the growth of the South, and the MANUFACTURERS' RECORD grows with it.

### A New Englander's Opinion on the South's Future.

The MANUFACTURERS' RECORD always takes pleasure in publishing the views of Northern people who have carefully studied the resources of the South, because their statements carry weight with many who are disposed to be skeptical of what Southern papers claim for their section. On this account it is interesting to read the following extracts from an editorial in the Fort Payne (Ala.) Herald, written by a former New Englander who has for six years lived in the South. Discussing the solidity of the South's industrial progress, he says:

People at the North who have been talking about the coming "crash" in the South do not speak from an intelligent understanding of the situation. Every Southern newspaper that gives reliable information is called a "boom sheet." Northern people have no idea of the mineral wealth of the South. Because a few capitalists have invested their money in this section the idea has obtained that they have engaged in speculative schemes and in a few months will retire from the Southern field. That is just where the mistake is made. The man who has been smart enough to accumulate his thousands in the North is also shrewd enough to plant his money in the South, where it will pay him handsome profits.

Our Northern friends do not realize the opportunities there are in the South for money-getting. When the newcomers to this section first arrive here a 6 per cent. investment looks very tempting to them, but it is not long until even 10 per cent. has but little charms for them. In New England the man who will pay 8 per cent. for money is looked upon as traveling the certain road which leads to bankruptcy and financial ruin. In the South land is held at such a low value that many an individual has paid 10 per cent. for money which he has invested in mineral property, and he has made a fortune out of his investment. The fact is thousands of acres of land have been sold at less than one-fourth its intrinsic value.

When the Northern people come to know what the South possesses in the way of natural resources the talk of a collapse will soon cease. Time and again the Herald has aimed to point out the facts in reference to this Southern country, and as a result it has been called a "boom" paper in many portions of New England. It wants to say right here that half the story has not been told. Not a single man has come here from New England who has not returned home an enthusiastic admirer of the South, and yet they have only "scraped around the edges" a little and do not realize what this section possesses in the way of natural resources.

The time is not far distant when the people of the North will begin to realize what this section has in the way of resources. Instead of looking for a crash they will join the procession and engage in the grand work of development. The resources are here. Towns will continue to spring up as by magic, and the future of the South is far more promising than the past. Where the resources are there will capital seek investment.

### An Old Town Revived.

The State of Virginia to day presents half a dozen illustrations of conditions which that many years ago would have been considered impossible. It is true there were a few who believed that development of Virginia's resources and the construction of new railroads would eventually result in the creation of new industrial centers; but the man who might then have been so bold as to prophesy that half a dozen towns, which had practically been at a standstill for a generation, would before the close of the century spring into new life and grow like certain Western municipal prodigies were then growing, his prophecy would have been branded as chimerical and visionary.

Take the old town of Liberty, which had remained a neglected village from revolutionary times till a year or so ago. Since then, however, it has been the scene, first, of manifestations of confidence in its future by its own enterprising citizens, and afterwards of well-directed endeavor to inspire others with that confidence, and recently of substantial progress in the direction of cityhood.

There are three notable points of advantage enjoyed by this promising instance of reinvigoration—first, the assurance of the new railroad which will come down by a mid-mountain route from Pittsburgh to Atlanta; second, proximity to raw material, and third, desirability as a place of residence. These advantages, however, have been in existence for years and years, and what is quite remarkable it is said that some of the very men who a few months ago regarded their utilization as impracticable have now most enthusiastic faith in the future of the town. Here, as most places over which the wand of progress is being waved, the preliminary work fell to a few; and as here so too elsewhere, wherever there are genuine advantages to be developed, the original promoters, the original rollers of stones up hill, have only to keep at work to convert enemies into allies.

All the probabilities point to continued activity at Bedford City (formerly called Liberty) and to solid, substantial growth. The State of Virginia is to be congratulated upon such examples of reinvigoration, and the MANUFACTURERS' RECORD takes this occasion to remark that while the Old Dominion may never again become so conspicuous as in the past as the mother of presidents, she will, nevertheless, become even more so as the mother of millionaires.

### Indorsing Our Mississippi Valley Work.

HOUSE OF REPRESENTATIVES,  
WASHINGTON, D. C., July 31, 1890  
Editor Manufacturers' Record:

I am very much pleased to note that the MANUFACTURERS' RECORD has undertaken to assist in the important matter of securing legislation which will result in the national government taking charge of the Mississippi river, improving its channel, building and protecting its banks so as to secure navigation, and also protection from devastating floods of the wonderfully fertile valley of the Mississippi river. I believe that this work, when successfully accomplished, will advance the material interests of the South as much as any enterprise that has been started or developed since the war; for the reason that when it is generally known that the protection of the Mississippi valley is to be secured by government control, investments will be made and a prosperity be developed that will astonish the whole country.

This inland sea, properly termed the "Father of Waters," which receives contributions from over forty tributaries extending from New York to Idaho, from the summit of the Rockies to that of the Alleghanies, and which furnishes a channel to convey water from the Canada line to the Gulf of Mexico, should not only be protected by the national government in times of war, as it certainly would be, but it is also in times of peace and prosperity entitled to the consideration and protection of the nation. As a Republican, having faith in the doctrine of internal improvement, I hope to see a Republican administration initiate a plan of national protection to the levees of the Mississippi river.

I assure you it is very gratifying and encouraging to me, a native and resident of the Mississippi valley all my life, to realize that the efforts of your influential paper have been enlisted in this cause. I hope I may be excused for expressing my pleasure with your selection of Mr. F. H. Tompkins, a native of Louisiana, to represent the MANUFACTURERS' RECORD in this enterprise. With very best wishes for your success, I remain, very sincerely yours,

H. DUDLEY COLEMAN.

### Growth of Salem.

From advance sheets of a pamphlet in press for the Salem Improvement Co. the following extracts are taken:

"By actual count, August 2d, just ten months from the organization of the Salem Improvement Co., and less than eight months since the first sale of lots, it is found that in ten months 228 houses of all kinds have been built or are in course of construction at Salem, embracing 259 residences, 35 buildings for stores, offices and other business purposes, and 34 buildings for factories and other industrial enterprises. Lack of brick and lumber has delayed the erection of many other buildings. One builder employs 429 men, and his pay-roll for July was \$11,462. It is estimated that the amount expended for buildings and improvements for this year will be about \$1,000,000.

The population has increased as rapidly as accommodations could be secured, but the census reports are not yet available. As an indication of this rapid increase, the census enumerator reports that he found in Salem 575 persons, principally mechanics and laborers, who had already been enumerated elsewhere in Virginia and other States.

The sales of lots and improved property for July aggregated \$320,000. This amount represents simply the transactions of the real estate agents in the regular course of business, there having been no special sale day of lots by any of the land companies during this month.

The Salem postoffice and telegraph office report each an increase in business of 350 per cent. within the last ten months."

### BUENA VISTA, VA.

Over Two Thousand Inhabitants and Only One Year Old.

[Special Cor. MANUFACTURERS' RECORD.]

BUENA VISTA, VA., August 1, 1890.

The enumeration of the inhabitants of Buena Vista was completed last night, and although the city is only one year old, the returns show the population to be 2,050 by actual count. If rapid growth can be considered as an indication of the merit of a city as an industrial center, and it certainly should be so regarded, Buena Vista is entitled to a place in the front rank of thriving Southern cities. With three railroads, the Baltimore & Ohio, Shenandoah Valley and the Chesapeake & Ohio, running through the city, Buena Vista is brought into direct communication with the principal markets of the world. Four hundred buildings, including residences and business houses, have been erected in a year, and many of these are handsome brick structures. The feature of the boom which is the most gratifying is that as soon as a house is completed, and frequently before, there is an occupant, while others are coming every day asking for more. Contractors are taxed beyond their capacity for work, and the demands on them are increasing daily. The taxable values of the city are estimated at one million dollars. A splendid brick hotel to cost \$75,000 is being erected, and will be completed by January 1. At present the hotel accommodations are most excellent. The new Colonade Hotel is under the management of the Buena Vista company, and has forty-five excellent rooms. Besides the hotel there are a number of very desirable boarding houses where the stranger is always hospitably received.

A company composed of Philadelphia capitalists is putting up fifty houses, and among the number is a \$25,000 brick house, designed for store-rooms, offices and an opera-house. Contracts have been awarded to build a \$7,000 brick public school-house and a \$5,000 brick church for the Methodist congregation. In addition to those enumerated contracts have been let for a large number of dwelling-houses, and careful estimates show that at least 300 houses will be built here in the next six months.

Iron ores in almost inexhaustible quantities are close at hand. One hundred miners are now at work getting out ores preparatory to the operation of the blast furnace, which will commence September 15. The Advocate Newspaper and Job Printing Office is one of the important interests of the place.

A list of the industries which have been secured is appended:

Iron furnace—almost completed.....	\$300,000
Pulp and paper mills—completed.....	\$5,000
Saddle and harness factory—in operation.....	10,000
Fire-brick works—in course of construction.....	100,000
Steam tannery—in operation.....	20,000
Planing mills and lumber-yard—in operation.....	30,000
Furniture and chair factory—completed.....	20,000
Red brick works—in operation.....	30,000
Wise Wagon Works—in operation.....	25,000
Wire fence factory—in operation.....	10,000
Woolen mills—in course of construction.....	70,000
Electric-light plant—in operation.....	10,000
First National Bank of Buena Vista—in operation.....	\$2,000
Buena Vista Building & Investment Co., bankers—in operation.....	\$1,800
Buena Vista Building & Improvement Co., —in operation.....	\$0,000
Buena Vista Advocate and Job Printing Office—in operation.....	5,000
Egg crate factory—organized.....	50,000
Lexington Investment Co.—in operation.....	50,000
Virginia Real Estate Investment Co.—in operation.....	100,000
Basic steel works—organized and ready for construction.....	300,000
Three livery stables—all in operation.....	10,000
Engine and boiler plant—organized.....	300,000
Power distributing plant—being organized.....	40,000
Total.....	\$1,735,800

SAMUEL POLK.

ADVERTISERS wishing to reach the manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South cannot find a better medium than the MANUFACTURERS' RECORD.

## WEYER AND FOUNTAIN CAVES.

## A Correspondent's Description of the Beauties of these Works of Nature.

The great attraction of Augusta county, and, it may be safely said, one of the most beautiful and impressive of nature's works upon this continent, is that of the Grottoes, our objective point. Weyer Cave, the best known of these was discovered in the first decade of this century, and has been occasionally brought to public notice by writers and illustrators ever since. A conscientious German artist named Beyers made many years ago numerous drawings by the feeble aid of lamps and torches, and the genial Porte Crayon has depicted and narrated his experiences in its depths. It is prominently treated in "Picturesque America." Cave Hill is a lofty spur, well wooded and within half a mile distance of the Shenandoah Valley Railroad. It is intermediate between those other Virginia wonders, Luray Caverns and Natural Bridge. The Shenandoah valley is viewed nowhere to better advantage than from its summit. Looking northward the Blue Ridge frames in the scene upon the right until its forest-clad heights are lost in the far blue distance. The serrated length of Massanutten mountain extends down the middle of the picture, ending abruptly a dozen miles away. Around its base are the forests, under cover of which the contending armies of the North and South screened their movements; and nearer at hand the bloody fields of Cross Keys and Port Republic. Upon the western horizon still greater mountains, over in the wilds of West Virginia, are dimly traced. All the valley is checkered with well-tilled farms, and at Shendun, the town projected by the corporation now owing the grottoes and the vast area of plain and mountain round about, there is a station and an excellent hotel.

That there are Ports Tarascon plentiful in the South, with well-meaning Tartarins and crafty Duc de Mons to sound their praises in the cities of the North, I have no doubt, but I do not believe they are located in the fertile intervals of Virginia. This region is within a dozen or fifteen hours' ride of the financial centers, and any investor may easily go and see and conclude for himself. But I came across the hills from Staunton, not so much to see the site of Shendun as to spend an evening with two Philadelphia friends, under the guidance of Mr. Mohler, the cave superintendent, and of certain gentlemen interested here, and what might be called a private view of the galleries of the grottoes in advance of the "opening for the season," which has since occurred.

Weyer cave is plentifully studded throughout with incandescent bulbs, and the same beautiful system of illumination is now being introduced into near-by Fountain cave. Upon our arrival at the entrance structure high up the hillside a signal was made to the dynamo operator upon the river bank in the valley, and as we stood in the rocky portal the crystal-draped rotunda first entered flashed into brilliant light, and we began our tour minus those burdensome and bad-smelling torches which make the visit to Mammoth cave a penance rather than a pleasure. Alcoves open to the right and left, but our guide reserves these for special spectacular effects upon the return trip. He well knows his trade.

These caves have been his field of research and labor for a lifetime. At a distance of about 500 feet from the entrance we invaded the cathedral, a superb apartment, fully 200 feet in length—a room which impressed me as being the most majestic and beautiful not only in this grotto, but in any of the many caves I have had occasion to explore in this and

other countries. The many points of light screened behind projecting masses of stalactites or set high overhead among the pendant crystals of the roof, the snowy columns and heavy draperies, the fountains and shrines, the solemn silence of eternity, the level brown floor, beneath which one may fancy the hallowed bones of crusaders and martyrs—all these convey to the mind an impression of some princely conventual hall—a notion purposely accentuated by the mellow echoing notes of organ pipes, a group of large stalactites struck with a mallet by the guide.

There are upwards of 30 chambers and alcoves in this cave, containing a variety and wealth of aqueous formations I have never seen approached in delicacy or profusion except in the intensely hot cave of Bellamar, near Matanzas, in Cuba. After passing the heroic statue which poses in the midst of the cathedral we enter other apartments, one of which has a height of 90 feet, and at the extreme end come to workings where exploration further into the mountain is bringing to light still other labyrinths. It is expected that Weyer and Fountain caves will soon be united by a passageway. The latter, while lacking much of the fairy-like crystallization which completely encrusts the former, is made up of a group of chambers of Titanic mould, a chaos of great rocks and gloomy depths, which suggest not processions, shrines and music, but rather hades and expiations. The temperature in both of these caves is throughout the year about 52 degrees, and, what is equally important, the footways are dry and clean. It is announced that hereafter Wright's excellent hotel at the station and the grottoes will be kept open for travellers through the entire year, and tourists in Virginia may see this choice bit of wonderland with small expenditure of time and none of comfort whenever it pleases them to do so.—F. H. T. in Philadelphia Ledger.

## Cardiff Notes.

CARDIFF, August 4, 1890.

Editor Manufacturers' Record:

The Cardiff Building & Loan Association is the title of the latest organization here. Some 200 shares have been subscribed for, and the association will soon begin business. The officers are: D. L. Spaulding, president; Capt. R. McFarland, vice-president; B. Weber, secretary and treasurer; C. P. Moore, agent; H. M. Sylvester, attorney. The directors are the president, vice-president and secretary and treasurer, ex-officio; H. M. Lord, W. S. Weston, W. L. Rutan, Geo. F. Bosworth, H. J. Hyde. This organization will be a great aid to Cardiff's building interests.

Cardiff now rejoices in telephonic communication with the country about. A line has been established, running from Crossville to Cardiff, with connecting lines from here to Rockwood and Harrison. The central office is in the Herald Building, and when the system is completed, as it will be in a few days, all the towns in the neighborhood of Cardiff can be reached with the "hello!"

Cardiff is the most desirable location in the South for manufacturing wagons, stoves, agricultural implements, furniture, or for foundries, machine shops, rolling mills, muck bar mills, nail works, glass works, cotton or woolen mills and tanneries. Hard wood of every variety, pig iron, bar iron, coke and semi-bituminous coal, superior gas coals, glass sand, cotton from the markets of the Southern States, and wool from all the Western and Southwestern States and Territories can be obtained at advantageous freight rates. Favorable freight rates are made upon raw materials to all factories established, as well as to points in the United States and Territories upon the manufactured articles. Those seeking new fields for manufacturing establishments should not fail to investigate the wonderful iron, coal and coke industries at Cardiff.

The First National Bank is open and doing business with E. C. White as cashier and H. L. Shaw as bookkeeper.

## MACHINERY WANTED.

If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will thus get all information desired as to prices, etc.

Artesian Well.—H. B. Wright, Clarksville, Texas, desires to correspond with parties who will undertake to furnish artesian water at given points, after inspection, upon the insurance plan.

Barbed Fence Wire.—W. H. Worth, Raleigh, N. C., wants prices on barbed fence wire and ribbon patterns of fence wire.

Barrel Factory and Saw Mill.—A. N. Wood, Gaffney City, S. C., desires prices on machinery for barrel factory and saw mill.

Boiler and Engine.—Zearing & Ingalls, Brazos, Texas, want a 30 horse-power boiler and 75 horse-power engine.

Boiler and Engine.—J. B. Pound, manager Evening News, Chattanooga, Tenn., will probably purchase a 15 horse-power boiler and engine.

Boilers, Engine and Dry-kiln.—G. F. Arnold, P. O. Box 72, Houston, Texas, will want boilers, engine and dry-kiln for brick works.

Brick Machinery.—G. F. Arnold, P. O. Box 72, Houston, Texas, will want a complete brick making plant.

Call Bell Outfit.—The Kentucky Hotel Co., Johnson City, Tenn., wishes to purchase an electric call bell outfit.

Cotton Mill.—W. J. McLendon, president Wadesboro Cotton Mills Co., Wadesboro, N. C., will want machinery for cotton mill.

Cotton-seed Oil Mill.—W. H. Worth, Raleigh, N. C., wants prices on complete outfit of machinery for a cotton-seed oil mill.

Crushing Plant.—Smith & Howell, Room 19 Cole Building, Nashville, Tenn., want a complete stone crushing plant of capacity for about 150 tons per day.

Drainage-pipe.—B. F. Frymier, mayor Cleburne, Texas, will purchase a supply of drainage pipe.

Drilling Machines, &c.—Edwin Stewart, Washington, D. C., will receive bids until August 12 to furnish at the Norfolk navy-yard one vertical testing machine, four portable drilling machines, 2,500 feet of belting, also a quantity of gauges, valves, pipes, pipe fitting, asbestos, stationery, etc.

Drills.—A. N. Wood, Gaffney City, S. C., wants prices on drills.

Elevator.—The Bluefield Iron Works, Bluefield, W. Va., will buy an elevator for foundry cupola.

Elevator.—The Kentucky Hotel Co., Johnson City, Tenn., wants baggage elevator.

Gang Edge and Lath Machinery.—W. H. Dasher & Co., Haddix, W. Va., will probably want gang edge and lath machinery.

Gins, &c.—Zearing & Ingalls, Brazos, Texas, want two cotton gins and a press.

Ice Factory.—G. L. Summers, Barnesville, Ga., desires to correspond with manufacturers of ice machinery.

Ice Machine.—James Muirhead, Box 595, Waco, Texas, will want a 4 or 5-ton ice machine.

Ice Machines.—E. D. Kohn, Chattanooga, Tenn., will want two 10-ton ice machines.

Ice Machines, Pumps, &c.—The Chattanooga Consumers' Ice Co., Chattanooga, Tenn., will want ice machines, pumps, etc.

Iron Fronts.—Green & Thompson, Myers, Fla., want prices on iron fronts for courthouse.

Iron Works.—The Bluefield Iron Works, Bluefield, W. Va., will purchase a punch and shear, a press for making shapes, and some machine tools.

Lime Works.—A. N. Wood, Gaffney City, S. C., wants catalogues and prices on modern machinery for lime works.

Locomotive.—The Standard Coal Co., Milldale, Ala., wants a coke oven locomotive.

Machine Tools.—F. F. Cherry, Aurora, N. C., wants the address of manufacturers of lathes, dies, taps and machine tools generally.

Matchers.—C. L. Wilson, Buchanan, Va., wants prices on matchers, etc.

Mining, &c.—The Idler Gold Mining Co., Marion, N. C., will soon purchase machinery for quartz mining, chlorination works, etc.

Nails.—W. H. Worth, Raleigh, N. C., wants prices on common cut and steel cut nails, all sizes.

Planers.—C. L. Wilson, Buchanan, Va., wants prices on planers.

Pipe.—W. H. Worth, Raleigh, N. C., wants prices on iron water-pipe of from 1/2 to 2 inches in diameter, and terra-cotta pipe, smallest sizes, for conveying water on farms.

Pump.—T. W. Hooper, 21 S. Gay street, Baltimore, Md., will probably purchase a pump for sinking a shaft in a gold mine.

Rams.—W. H. Worth, Raleigh, N. C., wants quotations on hydraulic water rams.

Saw Mill.—Winfield Larkins, Long Creek, N. C., wants a light saw mill.

Saw Mill.—D. R. Wingate, Orange, Texas, will purchase a new outfit of machinery for saw mill with capacity of 100 M feet per day.

Saws.—W. C. Pipkin, Hatchie, Texas, wants prices on two circular saws, one 60 and the other 30 inches in diameter.

Steam Heating Apparatus.—Uriah B. Harrold, chairman of building committee, Americus, Ga., will receive proposals for furnishing complete set of steam heating apparatus for public schools now in course of erection.

Transit, &c.—U. B. Harrold, Americus, Ga., will probably purchase a second-hand engineer's transit and an architect's or engineer's level.

Warehouse Machinery.—The Farmers' Warehouse Co., Germantown, N. C., wants to purchase machinery generally used in warehouses.

Water Works.—E. P. Chambers, clerk to water commission, Gainesville, Ga., will receive bids until August 26 for constructing water works. The work includes furnishing supply, stand-pipe, engines, boilers, pipes, etc., and bids will be received for whole or part of contract.

Woodworking Machinery.—S. A. Roake, Peckskill, N. Y., wants prices on machinery for a steam saw and shingle mill; also machinery for tonguing, grooving and planing lumber.

Woodworking Machinery.—C. L. Wilson, Buchanan, Va., wants prices on woodworking machinery.

Woodworking Machinery.—M. H. Roberts, Augusta, Ga., wants to correspond with manufacturers of woodworking machinery.

## The Chattanooga District.

[Special Cor. MANUFACTURERS' RECORD.]

CHATTANOOGA, TENN., August 2, 1890.

General business throughout this section is now in a very satisfactory condition. The large number of new furnaces now going up do not cover all the available territory South, but appear to be distributed advantageously with reference to ore and coal. These industries are not the only ones. Two or three new rolling mills and several foundries are being located at points where the raw material is to be had. These enterprises generally follow in the wake of the new towns that are being projected, thus rounding out development by mutually helpful diversity. This state of affairs cannot, of course, exist under any conditions other than a high degree of prosperity.

The several new towns that have been organized in this immediate vicinity all seem prosperous, and industries of all kinds are being located, involving the expenditure of large sums of money. Many of these enterprises are already completed, and these without exception are running to their fullest capacity.

All the Southern lines of railroad are doing an immense business at the present time. They are loaded to the guards with both freight and passengers, and their cry is still for more cars, of which none of the roads seem to have a sufficient supply. For several months past the movement of pig iron North has been very much delayed on this account, and the time is now fast approaching when the cotton crop will be a further and an enormous tax on the capacity of Southern railroads.

It is stated that \$3,000,000 of Northern and English capital awaits investment in a great ship-building plant at Norfolk, Va. If Congress passes the tonnage bill the money will be invested, while if it fails to do this not only will this \$3,000,000 be invested in something else, but likewise the money of numerous other capitalists who have been watching with interest the action taken on this bill. Mr. Chas. G. Eddy, vice-president of the Norfolk & Western Railroad Co., recently stated in an interview published in the Richmond Dispatch: "If the tonnage bill now before Congress is passed Norfolk city is destined to be a great and grand ship-building point, and Southwest Virginia will furnish everything needed for building all classes of vessels, from the timber used in their construction to the great iron plates."

# Hercules Ice Machines

FOR

Ice Making, Cold Storage, Packing Houses, Breweries, &amp;c.

Send for our new illustrated circular.

Hercules Iron Works, - - - Chicago, Ill.

## DO YOU USE ICE

Machinery; if so, note what J. D. Colby, of Swift & Co. stock-yards, Chicago, says of **BONNELL'S NUBIAN IRON ENAMEL**: "It is the only paint we will use for ice machinery." This after trying everything on the market. We also make the best agricultural, hollowware, &c.—in short, all kinds of black on the market. If you use asphaltum or anything similar it will pay you to write us. We guarantee everything we make, or refund freight and all other costs which a trial has cost you. How does that strike you?

**THE NUBIAN IRON ENAMEL CO.**

163 Sangamon Street, CHICAGO.

77 Warren Street, NEW YORK.

**RAEDER, COFFIN & CROCKER,**

## ARCHITECTS

Rooms 916-919, 218 LaSalle Street, Chicago.

Special Designers of Industrial Plants.

Completely Equipped Shops, Foundries, Warehouses. Cotton and Woolen Mills, Grain Elevators, &amp;c.

HENRY RAEDER, Architect; A. S. COFFIN, B. S. CROCKER, Engineers.

**O. R. MAKEPEACE & CO.**  
**ARCHITECTS and MILL ENGINEERS**  
 PROVIDENCE, R. I. Plans, Specifications and Estimates furnished for Cotton and Woolen Mills.

**GRAY & FITCH,**

MILL ARCHITECTS &amp; ENGINEERS,

264 Essex Street, Lawrence, Mass.

Plans executed for the best modern mill construction. Especial attention given to arrangements of power plants, shafting, etc.

**THE BROUGHTON MIXER**  
 FOR  
 Wall Plaster and Fertilizers.  
 MANUFACTURED BY  
**W. D. DUNNING,**  
 96 W. Water St., Syracuse, N. Y.  
 SEND FOR CIRCULAR.

**The BOOMER & BOSCHERT**  
**KNUCKLE JOINT PRESS**  
 FOR BALING  
 Cloth, Paper, Yarn, &c.  
 Or for any other purpose requiring great pressure.  
**BOOMER & BOSCHERT PRESS CO.**  
 329 W. Water St. Syracuse, N. Y.

**DO YOU BELIEVE IN SIGNS**  
**JORY & CO.**  
 Make Everything in  
**SIGNS**  
 Baltimore & Light Sts.  
**BALTIMORE.**

**DREW, BALDWIN & CO.**  
 COTTON MILL  
**Architects and Engineers,**  
 45 Broadway, New York.

**Money Saved in Street Grading**


WRITE

**The Southern Equipment Co.**  
**CHATTANOOGA, TENN.**

**LOCKWOOD, GREENE & CO.**
**Mill Architects and Engineers,**

131 Devonshire Street, Boston, Mass.

SPECIALTY:

Plans, Specifications and Superintendence for the Construction, Equipment and Organization of Cotton, Woolen, Worsted and other Textile Mills.

**Nier, Hartford & Mitchell,**  
**ENGINEERS.**

Water Works, Sewerage, Electrical Works and Municipal Improvements.

Richardson Block, CHATTANOOGA, TENN.

**KNOXVILLE, TENN.**  
 Room 10, City Hall. P. O. Box 21.  
**WRIGHT & WOOD,**  
**Civil & Sanitary Engineers.**  
 Sewerage, Drainage, Water Supply, Municipal Work, Surveys, Estimates, Specifications, Superintendence. J. C. WRIGHT, C.E.  
 C. F. WOOD, Jun. Am. Soc. C.E. Engineer and Superintendent Knoxville Water Co.

**CHAS. E. MANOR,**  
 Mill Builder and Furnisher and Mechanical Engineer,  
 DIRECTOR OF

**COMPLETE ROLLER MILLS,**  
**SANDS P. O., PAGE CO., VA.**  
 Send for Catalogue.

**STEIN & SCHWARZ,**  
 323 WALNUT STREET,  
 PHILADELPHIA, PA.

General Chemical and Metallurgical Works, Gas Furnaces and Gas Producers. Examination of Mineral Lands. Chemical and Metallurgical Analyses of every description. Chemical investigations and Reports.

**OTTEN & WESTENHOFF,**  
**Analytical & Consulting Chemists.**  
 Chemical Analysis of Iron Ore, Pig Iron, Steel, Limestone, Coal, Mineral Waters, Fertilizers, &c. Physical Tests of Iron, Steel and other Building Materials and Lubricating and Illuminating Oils, etc. Examination of Mining Properties.  
 Office and Laboratory, 17 W. Third St., Cincinnati, O.


**STEAM DREDGERS,**  
**PILE DRIVERS.**

**VULCAN IRON WORKS, Chicago.**  
 Send for our size catalogue.

### WANTS.

**WANTED.**—A position as Superintendent and Refiner with cotton-seed oil manufacturer. Have had ten years' experience and thoroughly understand the business. Address "COTTON-SEED," Drawer No. 375, Birmingham, Alabama.

**FAMILIES** of Cotton Mill Operators who desire steady work in a new modern gingham mill South, address R. GREER, Vice-President Calumet Cotton Factory, Mammoth Spring, Ark. Fine climate, cheap homes and cheap living, and we pay Eastern wages.

**OFFICE MANAGER OR SALESMAN WANTED.**

**A RELIABLE AND COMPETENT PARTY** to take charge of New York Branch Office, or some steam engineering firm or company to take exclusive agency for the sale of a Water Tube Steam Boiler already well introduced on the market, having an established reputation, and of which there are many thousand horse-power in use that can be referred to. Prefer parties already acquainted with water tube boiler business and steam engineering. Communications strictly confidential. Give past experience, references, etc. Address "DURABILITY," care of Manufacturers' Record, Baltimore, Md.

### WANTED.

## PLANS FOR MILLS.

Saw Mill, Cotton Mill and Oil Mill Millwrights, send us your best, full and specific plans and drawings for the above-named mills and approximate time for erection of same. We have many enquiries for millwrights. Address **MARINETTE IRON WORKS CO., Saw Mill and Mining Machinery, Atlanta, Ga.**

**J. H. PRATT,**  
**ANALYTICAL CHEMIST & MINING ENGINEER**

1826 Third Avenue, Birmingham, Ala.

Chemical Investigations, Analyses of Ores, Slags, Coals, Waters, &amp;c. Reports on Mineral Properties, &amp;c. Correspondence solicited.

**RATTLE & NYE,**  
**Analytical Chemists,**  
**METALLURGISTS,**  
 AND  
**Milling Engineers,**  
**CLEVELAND, O.**

**THE JACKSON & WOODIN MFG. CO.**

Cast Iron Gas and Water Pipe and Castings OF ALL DESCRIPTIONS.

**Berwick, Columbia Co., Pa.**  
**FREIGHT CARS, CAR WHEELS, BAR IRON,**  
**SPECIAL CASTINGS.**

## BUSINESS.

I will sell ten thousand dollars of stock in a successful spinning and weaving establishment, or enough for purchaser to secure salaried position in the business. Balance stock I would retain. A large, convenient and commodious two-story store, well located, might be rented. A good chance for a merchant. Address "PIEDMONT," Care of Manufacturers' Record.

## Valuable Cotton Mills

At Chancery Sale, at Gallatin, Tennessee, September 1st, 1890.

26 acres of land, three-story brick factory building 150x30 feet, engines, machinery, etc., in good repair ready to begin operation, 8 commodious tenement houses, 125 looms, automatic fire sprinkler.

Original Cost \$125,000.

Terms—Credit of 7, 12 and 14 months, personal security and lien retained, free from redemption. Makes osanburgs, sheetings and yarns. Right on two railroads. Address

J. Y. ROBB, C. &amp; M.

Gallatin, Tennessee.

## Texas Implement Business

**FOR SALE.**

On account of the death of the head of our concern, we wish to sell our entire stock of Machinery and Implements, good will and charter. We have been established since 1876, and have the reputation of being the largest dealers in the State. Will sell on easy terms.

**W. A. HUFFMAN IMPLEMENT CO.**  
 Fort Worth, Texas.

### PROPOSALS.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 3 o'clock P. M., on the 7th day of August, 1890, for all the labor and materials required to complete the plumbing for the U. S. Courthouse and Postoffice at CHARLOTTE, N. C., in accordance with the drawings and specification. Each bid must be accompanied by a certified check for \$500. The Department will reject all bids received after the time fixed for opening the same, also bids which do not comply strictly with all the requirements of this invitation. Proposals must be sealed and endorsed "Proposal for Plumbing for the U. S. Courthouse and Postoffice at Charlotte, N. C." and addressed to JAS. H. WINDRIM, Supervising Architect. July 24th, 1890.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 3 o'clock P. M., on the 26th day of August, 1890, for all the labor and materials required for the marble work, &c., for the U. S. Courthouse and Postoffice building at Pittsburgh, Pa., in accordance with the drawings and specification, copies of which may be had on application at this office or the office of the Superintendent. Each bid must be accompanied by a certified check for \$500. The Department will reject all bids received after the time fixed for opening the same, also bids which do not comply strictly with all the requirements of this invitation. Proposals must be sealed and endorsed "Proposal for the Marble Work for the U. S. Courthouse and Postoffice building at Pittsburgh, Pa.," and addressed to JAS. H. WINDRIM, Supervising Architect. July 31, 1890.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 3 o'clock P. M., on the 16th day of August, 1890, for all the labor and materials required for the approaches to the United States Postoffice, Customhouse, &c., building at WILMINGTON, N. CAROLINA, in accordance with the drawing and specification, copies of which may be had on application at this office or the office of the Superintendent. Each bid must be accompanied by a certified check for \$500. The Department will reject all bids received after the time fixed for opening the same, also bids which do not comply strictly with all the requirements of this invitation. Proposals must be sealed and endorsed "Proposal for the Approaches to the U. S. Postoffice, Customhouse, &c., building at Wilmington, N. C., and addressed to JAS. H. WINDRIM, Supervising Architect. July 23d, 1890.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 3 o'clock P. M., on the 16th day of August, 1890, for all the labor and materials required in the erection and completion of the United States Courthouse and Postoffice building at Opelousas, La., (except heating apparatus) in accordance with the drawings and specification, copies of which may be had on application at this office or the office of the Superintendent. Each bid must be accompanied by a certified check for \$500. The Department will reject all bids received after the time fixed for opening the same, also bids which do not comply strictly with all the requirements of this invitation. Proposals must be sealed and endorsed "Proposal for the Erection and Completion (except heating apparatus) of the U. S. Courthouse and Postoffice building at Opelousas, La.," and addressed to JAS. H. WINDRIM, Supervising Architect. August 2d, 1890.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 3 o'clock P. M., on the 16th day of August, 1890, for supplying and delivering at freight depot at place of destination, the Postoffice lock boxes, lock drawers, locks, pulls, plates, etc., for U. S. Public Buildings, as may be ordered during the fiscal year ending June 30th, 1891. Copies of the specification and any additional information may be had on application at this office. Each bid must be accompanied by a certified check for \$500. The Department reserves the right to reject all bids received after the time fixed for opening the same; also bids which do not comply strictly with all the requirements of this invitation. Proposals must be sealed and endorsed "Proposal for Lock Boxes, Lock Drawers, Locks, Pulls, Plates, etc., for U. S. Postoffices," and addressed to JAS. H. WINDRIM, Supervising Architect. July 26, 1890.

**PROPOSALS WANTED.**—Up to 12 o'clock August 30, 1890, proposals will be received for the erection of a new Courthouse in Spartanburg, City, South Carolina. Proposals will be sealed and directed to Joseph M. Elford, county commissioners clerk, Spartanburg, South Carolina, marked Proposal for New Courthouse. Proposals will be for the furnishing of materials, except as modified herein, and building the entire structure complete, according to plans and specifications. The right is reserved to reject any of all proposals and to waive formalities. The successful bidder will be required to give bond to the full amount of the contract, and to enter upon the work immediately after the perfection of contract bond, &c. Payments will be made in cash as follows: 80 per cent. of the value of the work done and put in place in the building in an acceptable manner, as the work proceeds. Plans and specifications can be seen and all necessary information can be had at the office of the clerk of the county commissioners, Spartanburg, S. C., or McDonald & Bros., architects, Louisville, Kentucky. All information, or work, or materials indicated by the drawings and not shown in the specification, or vice versa, will be performed as fully as if laid down in both. Should any parts of the drawings and specifications conflict with other parts, contractor will make report to the architect, and get instructions as how to proceed. Each contractor is expected to read over the entire specifications; this also applies to subcontractors. By order of the Board of County Commissioners, held at Spartanburg July 26th, 1890.

CHAS. A. BARKY,  
 Chairman of Board.

JOSEPH M. ELFORD,  
 Clerk of County Com'rs, Spartanburg, S. C.

**BOUDE, PENDLETON, MEEM & CO.**
**Real Estate,**  
**Stocks and Insurance,**

Glasgow and Buena Vista, Va.



## TRADE NOTES.

THE Akron Belting Co., of Akron, Ohio, report threefold greater sales for June, 1890, than for June, 1889. This indicates great push and enterprise in the management of the company.

STEVENS BROS. & Co., Stevens Pottery, Ga., manufacturers of pottery, sewer-pipe, etc., have a 7-foot wet pan which is offered for sale at a low figure. The machine has been used only a short time and is in first-class condition in every respect.

A COMPLETE outfit of second-hand planing mill, sash, door and blind machinery, in good condition, is offered for sale in another column at what is claimed to be one-half of its real value. Any one desiring to investigate can address L. S. Colburn, 87 Prospect street, Cleveland, O.

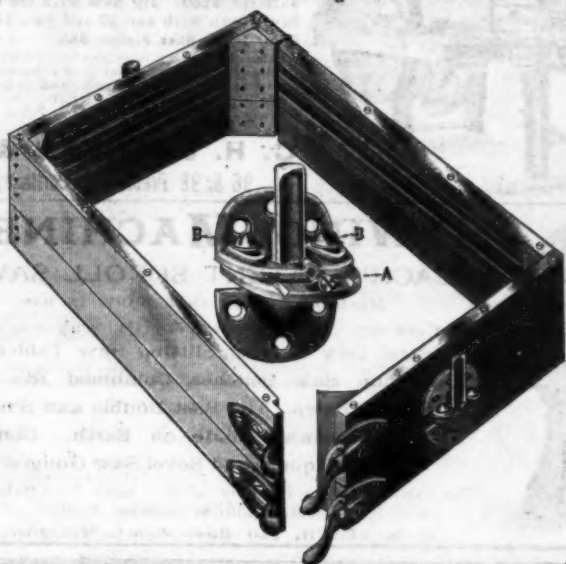
THE St. Louis Screw Co., of St. Louis, Mo., is sending out a new illustrated catalogue and price-list. Copies mailed free upon application. The illustrations are

water and steam in direct contact in a chamber below atmospheric pressure, by which process the makers claim a greater quantity of water can be heated and a better quality of heat obtained than by any other method. Testimonials showing a high opinion of the vacuum exhaust steam economizer have been received from a large number of users, among whom are Joseph Bell, chief engineer of the St. Louis Exposition; G. W. Gail & Ax, tobacco manufacturers, Baltimore; Pullman Palace Car Co., of Chicago, and F. N. Pike, manager of the Hygeia Hotel, Old Point Comfort, Va.

## Stearns' New Snap Flask.

The putting upon the market a ready-made snap flask as an article of manufacture is a feature in manufacturing as new as it is needed.

The large V-shaped pins with corresponding bearings insure a level lift of the cope, enabling less experienced help to mold difficult patterns. In the central illustration is an enlarged view of the pins and guides at each end of the flask. The



THE STEARNS SNAP FLASK.

exact reproductions of the set, cap and machine screw, and taps, etc., manufactured by the company, the aim being to convey to the public a correct idea of the variety and sizes of the goods. Special orders for bolts and screws of wrought or malleable iron or brass or steel of any desired shape or size will be filled by the company with economy and dispatch.

THE firm heretofore trading under the name of L. F. Seyfert has largely increased its facilities for handling high grade engines, boilers and machinery, and has reorganized as L. F. Seyfert's Sons. The business hereafter will be continued under this name, and will occupy the old stand, Nos. 437, 439 and 441 N. Third street, Philadelphia. Mr. Wm. M. Seyfert, Sr., still retains his connection with the house, and will continue to give his active attention and enlarged experience to the management of the business.

MESSRS. WARREN WEBSTER & Co., New York, Philadelphia and Chicago, issue a very neat pamphlet of 70 pages, presenting to the public a brief statement of the advantages of Webster's "vacuum" exhaust steam economizer, together with a number of fac-simile testimonials from the users of this invention. This economizer is an appliance for the economical use of exhaust steam, and the manufacturers call attention to two prominent features, viz., simplicity in construction and an entire departure in principle from other heaters. The operation of the vacuum exhaust steam economizer produces a partial vacuum within, thereby accelerating the inflow of steam from the source of supply and brings the

brass screw "A" is used to take up any looseness or wear in the pins, and the clamping screw "B" holds the parts together.

The flasks are made of whitewood, light in weight, yet stiff and strong, and the edges are bound with iron.

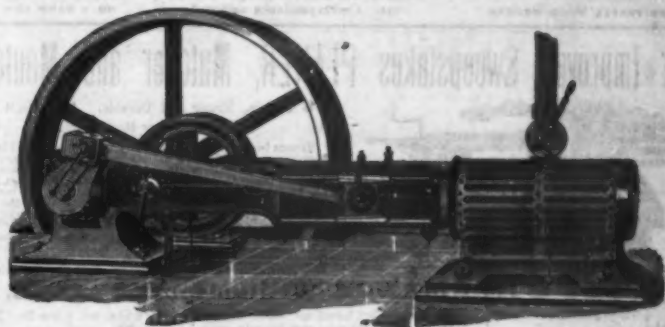
The metal furnishings only will be sold to parties desiring to make up their flasks. These flasks will be made, if so ordered, with outside corner irons in place of the inside corner blocks. E. C. Stearns & Co., Syracuse, N. Y., are the manufacturers.

## E. J. WOOD,

### Consulting Engineer and Contractor,

243 BROADWAY, NEW YORK.

Superintendent of the Construction and Erection of Factories,  
Steam Plants and all kinds of Machinery.  
Engines Indicated, Valves Adjusted and Power Measured.



COMPLETE STEAM PLANTS. - BOILERS, ENGINES, Every Description.  
SHAFTING, PULLEYS, HANGERS.  
DRAWINGS AND SUPERINTENDENCE. ECONOMY GUARANTEED.  
CORRESPONDENCE SOLICITED.

I also make a Specialty of Taking Down, Removing and Reerecting Steam Plants and Machinery of every description. Send for Catalogue F.

## HARRISON SAFETY BOILERS.

Merits Proven by Over  
Twenty Years' Practical Work.

Combine Maximum Safety,  
Economy of Fuel, Durability.

All sizes from 4  
H. P. to 200 H. P.

Ease of Transportation, Erection and Repair.  
Full Particulars, Drawings and Estimates mailed upon application.

HARRISON SAFETY BOILER WORKS, Germantown Junction, Philadelphia, Pa.  
Southern Office, 9 to 13 N. Pryor street, Atlanta, Ga.

SEND FOR ILLUSTRATED CATALOGUE  
OF THE

## New Pulsometer

### STEAM PUMP.

Especially adapted for Elevating all kinds of Liquids Quickly, Cheaply and Efficiently, no matter how Gritty, Thick, Hot or Cold, without Skilled Labor, Oil, or Machinery.

Economical. Simple. Durable. Compact. Efficient.

PULSOMETER STEAM PUMP CO., New York.



### Improved Screw Cutting FOOT AND POWER LATHES

Drill Presses, Shapers, Band, Circular and Scroll  
Saws, Machinists' Tools and Supplies. Lathes  
on trial. Catalogue mailed on application.

THE SEBASTIAN-MAY CO.

162 West Second St., CINCINNATI, O.



WM. SIMPKIN A. S. M. E.

## SIMPKIN & HILLYER,

### ENGINEERS and CONTRACTORS

RICHMOND, VA.

L. S. HILLYER, M. E.

Manufacturers of and Agents for Steam Engines, Boilers, Pumps and Heavy Machinery. Economical Steam Plants, Rope and Belt Driving. Special Machinery for Chemical and Fertilizing Works, Gas, Water and Cressote Works. A specialty of the "Warwick" Pole Road Locomotive, "Warwick" Tram Road Locomotive, and the "Warwick" Silent Steam Street Motor. Castings furnished. Repair work solicited. Consultations, Arbitrations and Valuations. Engines indicated. Plans, Specifications and Estimates prepared. Correspondence invited.

WORKS—Newport News, Va.

GENERAL OFFICE—1105 Main St., Richmond, Va.

SEND ALL REPAIRS TO OUR WORKS.

HERMANN SCHMIDT, President.

R. F. HUDSON, Secretary and Treasurer.

W. SIMPKIN, Vice-President and Gen. Agent.

## THE RICHMOND ICE-MACHINE CO.

Manufacturers of the Most Improved

RICHMOND, VA.

## Ice-Making and Refrigerating Machinery

ON THE COMPRESSION PLAN.

We guarantee the proper working of our machinery. All working parts built to gauge, so they can be readily duplicated, and nothing but the very best material used. Specifications and estimates furnished. Correspondence solicited.

P. O. Box 315.

GENERAL OFFICE 1105 MAIN STREET, RICHMOND, VA.

Send for our Pamphlet "How to Make an Ice Factory Pay."

**CORDESMAN, MEYER & CO.**

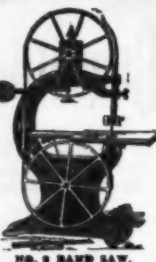
171 &amp; 173 W. SECOND STREET, CINCINNATI, OHIO.

**Wood-Working Machinery**

OF EVERY DESCRIPTION.

Planing Mills, Furniture and Chair Factories, Carriage, Wagon and Agricultural Works.

Write for our latest catalogue and price-list. Correspondence solicited.

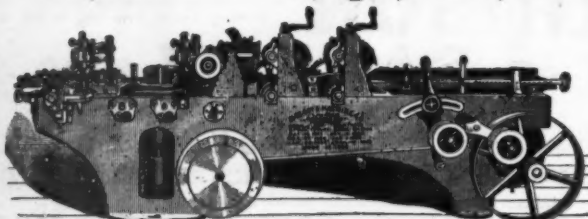
**Our Improved Sweepstakes PLANER, Matcher and Moulder**

Is Simple, Strong and Durable. Never fails in Yellow Pine or Hard Lumber.

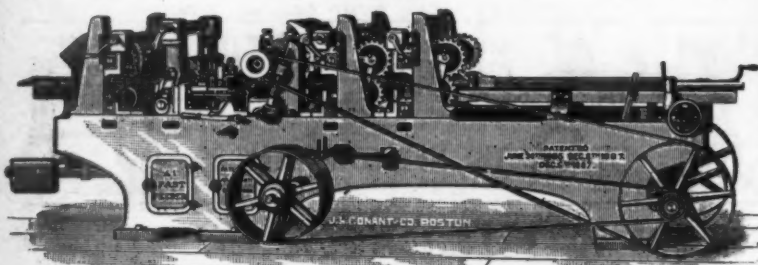
Recent improvements make it the most complete Planer, Matcher and Moulder in the market for the money, which is attested by daily testimonials. No other Planer and Matcher made that uses the Ellis Patent Three-Part Journal boxes. It has an extra Head and Arbor for making Mouldings and all odd work. Two Belts drive the Top Cylinder. All Cutter Heads are made of Cast Steel. All Expansion Links and Gears are RUBBED with BRASS. It has a POWERFUL FEED. Heavy countershaft furnished with each machine. Write for special prices; also for our 80-page catalogue, showing a full line of Sash, Door, Blind and Furniture Factory Machinery made by us. Address

**ROWLEY & HERMANCE, Williamsport, Pa., U. S. A.**Price: { To plane with top head 24" wide, under head 20" wide & match 12 1/2" wide, wt. 3,500 lbs. \$530  
" " " 24" " and match 12 1/2" wide, weight 3,000 lbs. 470  
" " " 20" " " 3 1/2" " 2,600 lbs. 380**GLEN COVE MACHINE COMPANY, Limited,**

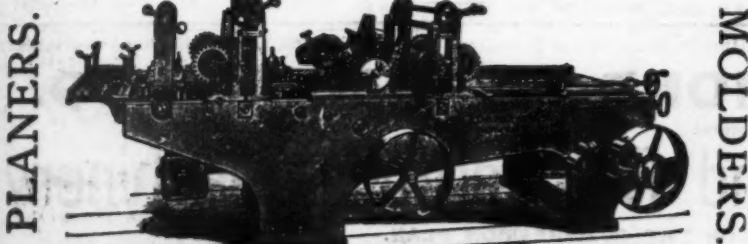
MANUFACTURERS OF

**Improved Planing Mill Machinery.**Office & Works,  
34 CLAY ST.  
Brooklyn, N. Y.

No. 24.—16-inch Patented Fast Feed Moulding Machine.

**SPECIALTIES:** Fast-Feed Sizing, Planing and Matching, Flooring and Ceiling, Inside Moulding and Double Surfacing Machines; also the celebrated GLEN COVE DOUBLE DECKER and GLEN COVE SPECIAL.**S. A. WOODS MACHINE CO.**  
**Wood-Working Machinery,**Planing and Moulding Machines a Specialty.  
91 Liberty Street, NEW YORK. 172 High Street, BOSTON. 61 S. Canal Street, CHICAGO.  
WORKS: SOUTH BOSTON, MASS.**C. B. ROGERS & CO.**

MAKERS OF Improved Wood-Working Machinery.

PLANERS. MOLDERS.  
MORTISERS, TENONERS, BAND AND SCROLL SAWS, &c.  
Office and Works, Norwich, Conn. Warehouse, 109 Liberty Street, N. Y.  
THOS. K. CAREY & BROS., AGENTS, BALTIMORE, MD.**WM. E. HILL & CO.**

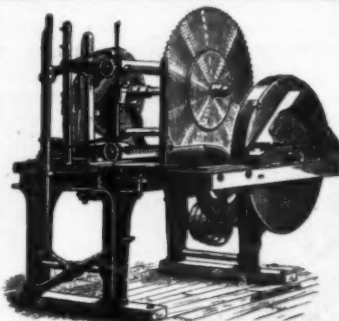
— MANUFACTURERS OF —

SPECIAL PATENT SAW and SHINGLE MILL

**MACHINERY**

KALAMAZOO, MICH.

WRITE FOR NEW ILLUSTRATED CATALOGUE.

**WOOD-WORKING MACHINERY**28-in. Band Saw \$65. 30-in. Band Saw \$85.  
38-in. Band Saw \$105. Planer Plane, 24x9,  
\$108. Planer Plane, 18x6, \$82. 24-in. Double  
Surfacer \$260. Jig Saw with six Saws \$62.  
Saw Bench with one 20 and two 14-in. Saws  
\$65. 12-in. Buzz Planer \$35.

Other Machinery in proportion. Largest line in the United States. Special Cash Discounts from the above to the Southern trade and prices given.— Freight paid to any railroad station in the U. S. or Canada. Write us for Circulars, Prices and Terms before buying.

**C. H. SCANLAN & CO.**

96 &amp; 98 Preble St., Portland, Me.

**SAWING MACHINERY**

BEACH'S PATENT SCROLL SAWING

Machines. More than 5,000 in use.

You can stop, change the saw and get to work in 4 seconds.

ALSO Steel Saw Arbors, Fitting Saw Tables, Combination Saw Benches, Combined Rip and Out-off Saws. The Best Double and Single Out-off Saws Made on Earth. Combined Square and Bevel Saw Gauges.

You can't afford to buy any other. Send for catalogue and prices. Address (naming street)

H. L. BEACH, 110 Rose Street, Montrose, Pa.

The **CANTON SAW CO** MANUFACTURERS OF

**SOLID AND INSERTED TOOTH CIRCULAR SAWS**

**KNIGHT'S IMPROVED MILL DOGS**

Shingle, Concave Grooving, Heading and other Saws.

Over 15,000 in use in the United States and Canada.

125-137 SOUTH REX ST. Canton, O. U. S. A.

SEND for DESCRIPTIVE CIRCULAR and PRICES LIST

**PETER GERLACH & COMPANY, CLEVELAND, OHIO.**Manufacturers of **Alligator Chisel-Bit Saws,**

The CHAMPION STAVE, HEADING and SHINGLE MACHINES. Ice Tools and Mill Supplies.

**HOTEL LUCERNE**

J. HARRY CHAPMAN, Proprietor, Maj. J. P. LONGLEY, General Manager.

**SALEM, VA.**

SPECIAL ATTENTION PAID TO TRANSIENT GUESTS.

ACCOMMODATIONS FIRST-CLASS.

Fine Sample Rooms for Drummers.

Rates Reasonable.

**Mineral Lands, City Lots,**

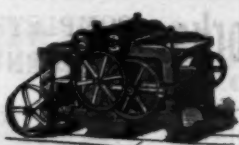
GRASS, GRAIN AND FRUIT FARMS FOR SALE.

ADDRESS

**F. J. CHAPMAN, - - Salem, Va.**



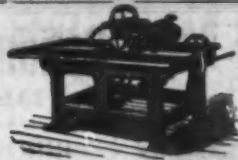
No. 24—Planer and Matcher.



No. 24—Smoothing Planer.



Horizontal Borer.



No. 2—Self-Feed Rip Saw.



No. 3—Molding Machine.



No. 1  
Foot Scroll Saw.

W. H. DOANE, Pres't.

**J. A. FAY & CO.**

D. L. LYON, Sec'y.

CINCINNATI, OHIO.

Manufacturers of **Improved Wood-Working Machinery**

OF EVERY DESCRIPTION,

For Planing Mills, Sash, Door and Blind Shops, Furniture, Carriage and Wagon Factories, Spoke, Wheel and Agricultural Works, Car Shops, etc.



No. 1  
Hand Saw.

Awarded "GRAND PRIX" at the Great PARIS EXPOSITION of 1889.

Every Machine Tested and Warranted.  
Send for Circulars and Estimates.



# Wood Working Machinery



COMPLETE OUTFITS FOR PLANING MILLS

**H. B. SMITH MACHINE CO.**

Send for catalogue and visit our extensive  
warerooms if possible.

**925 MARKET STREET.**

**PHILADA, PA., U. S. A.**

Established 1840.

**HENRY DISSTON & SONS,**

Established 1840.

Incorporated,

**Keystone Saw, Tool, Steel and File Works,**

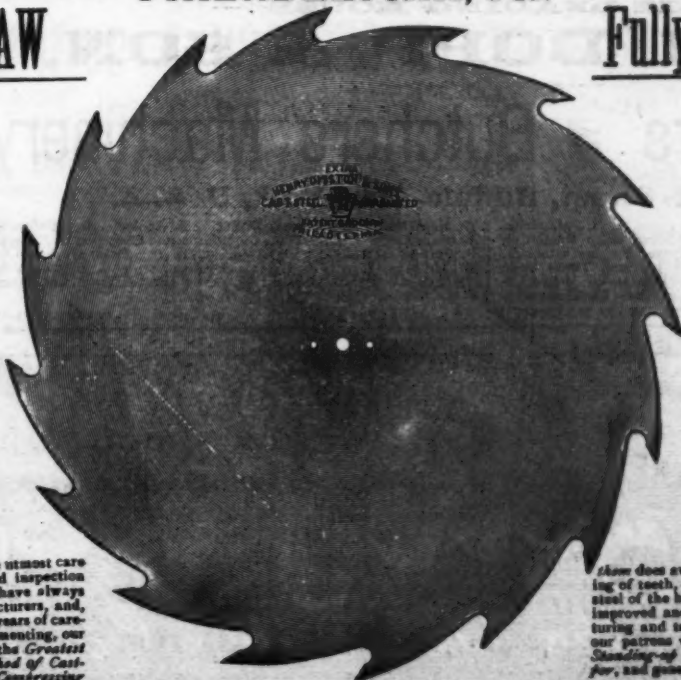
PHILADELPHIA, PA.

**Every SAW**

**Fully Warranted.**

**BRANCH HOUSE:**  
Cor. Randolph and Market Streets,  
**CHICAGO, ILL.**

Send for Price List and Discount Sheet and  
New Illustrated Edition of Files.



**BRANCH HOUSE:**  
923 West Main Street,  
**LOUISVILLE, KY.**

Send for New edition of Lumberman's Hand  
Book and Sawyer's Pocket Edition.

**WE** have always taken the utmost care  
in the manufacture and inspection  
of our steel and saws, have always  
headed the list of saw manufacturers, and  
we are happy to say, that after years of care-  
ful study and expensive experimenting, our  
efforts have been crowned with the *Greatest  
Success of the Age*, as our *Method of Casting  
Steel Ingots and Process of Compressing*

now does away with the splitting and spal-  
ling of teeth, makes a hard, tough and elastic  
steel of the highest quality, which, with our  
improved and patented process of manufac-  
turing and tempering enables us to furnish  
our patrons with saws that for *Toughness,  
Standing of Quality, Uniformity of Tem-  
per, and general superiority,*

**HAVE NEVER BEEN EQUALLED.**

**THE BEST MILL BUILT.**  
Send for circular.  
**\$200**  
**\$250**  
**Richmond Machine Works**  
Richmond, Ind.

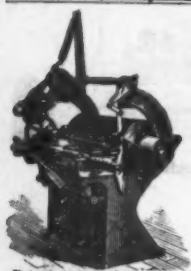
**710 SAW.** **CORNER BLOCK MACHINE.**

**P. PRYBIL,**  
518 to 524 W. 41st Street, New York City.  
MANUFACTURER OF SUPERIOR

**Wood-Working + Machinery,**  
Shafting, Pulleys and Hangers.

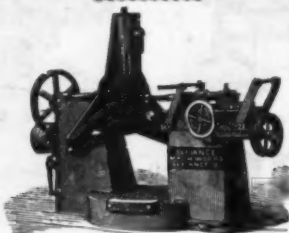
Send for Catalogue "A."





Patent Automatic Combined Spoke, Turning and Squaring Machine for common, seven patent or sharp-edged spoke turning; capacity 3,000 per day.

Established 1850.



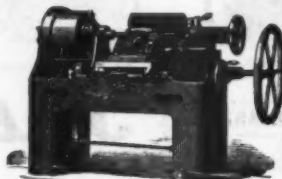
Wheel-Boxing Machine.

## Defiance Machine Works, DEFIANCE, OHIO.

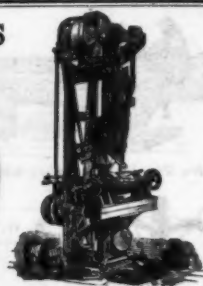
MANUFACTURERS OF

HUB, SPOKE, WHEEL, BENDING  
**Wagon and Carriage Machinery.**

Patent Plow-Handle Benders, Shapers, Cut-off Saw and Revolving Polishers, Hot-Form, Double and Single Bent Pole and Express Shaft Benders, Neck-Yoke, Singletree, Brush Handle Lathes and Finishing Machines. Estimates and Circulars given upon application.

COMPLETE OUTFITS  
FURNISHED.

Patent Hub-Turning Machine.



Patent Automatic Double Chisel Hub-Mortising Machine. Built in three sizes.

FOR FAULTLESS.  
FAITHFUL,  
FAST FEEDING

# WOOD WORKING MACHINERY

OF EVERY DESCRIPTION.

Address

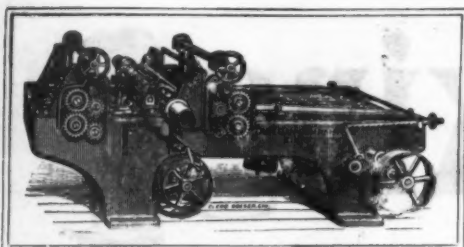
## THE EGAN COMPANY,

Complete Outfits

For Planing Mills, Sash,  
Door, Blind, Chair, Furni-  
ture, Carriage and Wagon  
Factories, General Wood  
Workers, &c.

228 to 248 W. Front St., Cincinnati, O.

Latest Expression of American Ingenuity.



Send for New Catalogue and Information.

Established 1853.

## Wheeler, Madden & Clemson Mfg. Co., Middletown, N.Y.

Manufacturers of Hand, Cross-Cut and Wood

No. 24 Hand, Panel and Rip Saws—26-inch, list \$20.00 per dozen.



PRICE, QUALITY and general SUPERIORITY taken into consideration, this is the Best Hand Saw on the market for Mechanics use.

## SAWS.

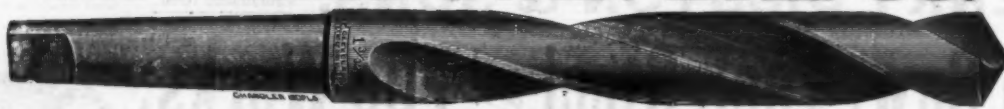
Extra Thin Back. Patent Handle. Hollow Back Blade.  
PERFECT TEMPER. ELGANT FINISH. SUPERIOR FILING.

CROSS-CUTS furnished in all the leading shapes, sizes and styles of teeth, in both WIDE, NARROW and ONE MAN Saws. Only the very best of Crucible Steel of our own manufacture enters into our goods, and we fully warrant them in each and every particular. We are now turning out the finest goods ever produced in our line. For Sale by all Leading Jobbers and Dealers.

Established 1874.

MANUFACTURERS OF  
Taper Shank Drills,  
Straight Shank Drills,  
Blacksmith Drills,  
Bitstock Drills,  
Straight Fluted Drills,  
Machine Bit Drills

## Cleveland Twist Drill Co.



Send for Catalogue.

OFFICES—Cor. of Lake & Kirtland Sts., Cleveland, O.  
101 Chambers Street, New York.

Write for Discount.

MANUFACTURERS OF  
Self-feeding Reamers,  
Expanding Reamers,  
Shell Reamers,  
Stay-bolt Taps,  
Taper Reamers

—THE LEADING HOUSE.—

## H. WM. DOPP & SON,

MANUFACTURERS OF

## Soap Makers' and Butchers' Machinery,

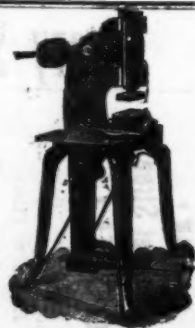
462 Ellicott Street, Buffalo, New York, U. S. A.

Swing Foot Lever Soap Presses, Nos. 1 and 2. Combination Foot and Steam Power Soap Presses. Improved Soap Remelting Catchers, either with or without 8 Horse Power Engine attached. Seamless Steam Jacket Kettles. Steamed Jacketed Toilet Soap Kettle, with Agitator (three different styles). Steam Jacketed Rendering and Refining Kettles. Steam Jacketed Kettles for Confectioners.

Improved Lard Dryer, Mixer and Cooler. Steam Jacketed Vacuum Pans. Hotel Kettles for Boiling and Steaming in Hospitals, Institutes, Barracks, Hotels, Asylums, &c., &c. Steam Jacketed Glue Pot Heaters. Iron Soap Cutting Frames, with Adjustable Wires. Soap Dies, for Stamping and Moulding the Soap. Hand Stamps, Steam Traps, with Balanced Valve, &c.

ILLUSTRATED AND DESCRIPTIVE CATALOGUE ON APPLICATION.

MENTION THIS ADVERTISEMENT.



# Litofuge.

is the best boiler Compound.

LITOFUGE MANUF'G CO. 62 JOHN ST. NEW-YORK.



The Akron Improved Hot Blast Heating Apparatus.  
As Applied to Factory Buildings.

## A Word About Heating and Ventilation of Buildings.

The value of a good indirect heating plant when supplied by forced circulation is difficult to appreciate by those who have not drawn comparisons, or made the subject a study. This system is not an experiment, and is endorsed by the highest authorities on the subject. It is an important step in the direction of sanitary reform for heating factories, mills, schools, theaters, public buildings, &c. The advantages of this system are numerous. It is practicable, convenient, easy of regulation, compact, cleanly and far more economical than any other system. A CONSTANT CURRENT OF WARM, FRESH AIR is evenly distributed to every part of the building, and the air is changed every ten or fifteen minutes. This same system of heating can be made a perfect ventilator, and should be considered by owners and projectors. We are prepared to equip mills complete with this system, and guarantee results. Our HOT BLAST STEAM HEATING APPARATUS costs less than the ordinary method of heating by steam pipes and radiators. Write for catalogue and full particulars.

The AKRON HEATING & VENTILATING CO., Akron, O.



## THE "WELLS LIGHT."

WALLWORK & WELLS' PATENTS. (Registered Title.)

Powerful Portable Light <sup>UP</sup> TO 2,000 C. P.

Self Contained. No Outside Motive Used. Complete In Itself, as shown by Accompanying Cut. Simple in Construction. Any Laborer can handle it.

3,000 SOLD LAST SEASON.

UNAFFECTED BY WEATHER.

FOR FULL INFORMATION  
APPLY TO

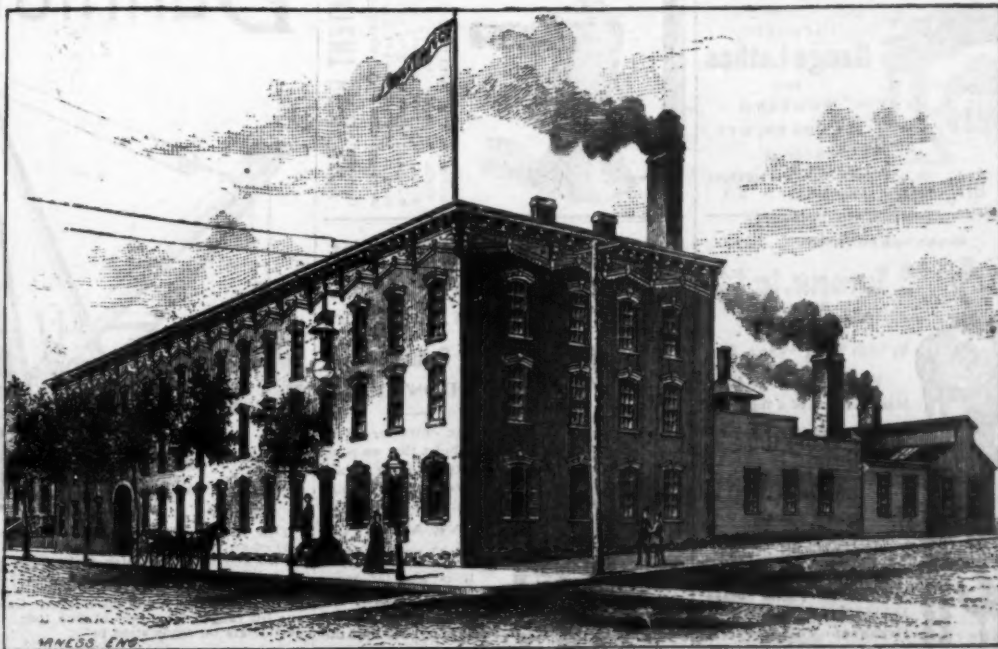
KEEGAN & HALPIN,

44 & 46 Washington St.,  
NEW YORK.

PERFORATED METALS OF EVERY DESCRIPTION BY THE HARRINGTON & KING PERFORATING CO. CHICAGO.

EASTERN OFFICE, No. 284 PEARL STREET, Cor. Beekman, NEW YORK.

Headquarters for the only Standard SNAPS,  
CHAIN, WEB, ROPE GOODS, &c., Manufactured.



COVERT MFG. CO., West Troy, N. Y.



### HARTMAN'S PATENT INSIDE SLIDING WINDOW BLIND

Is the most popular Blind in America. Architects and builders prefer it to any other for its style, convenience and economy. Not complicated. The only Blind that is furnished with an automatic **Emergency Proof Lock**, free of charge. This is a item of immense magnitude, and may save you many times the cost of blinds and perhaps life also, and the only blind that gives entire satisfaction. Thousands in use. Agents wanted everywhere. Send for illustrated catalogue and prices. Manufactured by HARTMAN & DURSTINE, No. 2 Beaver St., WOOSTER, OHIO.

### WILLER'S SLIDING BLINDS

SUPERIOR TO ALL OTHERS.



WILLIAM WILLER  
SOLE MANUFACTURER - FOURTH & CEDAR STS.  
MILWAUKEE, WIS.

## TRADE NOTES.

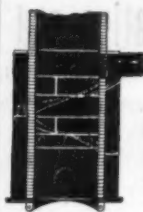
THE Menasha Wood Split Pulley Co., Menasha, Wis., report the following recent orders for hickory pulleys: S. A. Smith & Co., Brattleboro, Vt.; W. P. Orr Linseed Oil Co., Piqua, Ohio; T. W. Murray, Evansville, Ind., and a large order to be shipped to Bucaramango.

THE Heberling Metal Roofing Co., Havana, Ills., manufacture a very neat metal roofing which they style "Quick Laid." It does away with labor usually required in the laying of metal roofing. There are no nails, rivets or cleats exposed, and in all other features the "Quick Laid" will commend itself to intending purchasers of metal roofing. It is packed and shipped in boxes prepared specially for the purpose, preventing damage while in transit. Catalogues and price-list may be had upon application to the manufacturers.

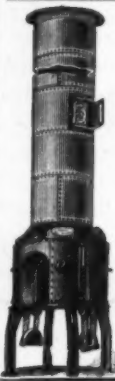
THE P. H. & F. M. Roots Co., of Connersville, Ind., manufacturers of rotary blowers, portable forges, etc., report among recent sales the following Southern orders: One No. 6 blower and engine combined on same bed plate from Chattanooga Foundry Co.; one No. 6 blower and engine combined from Ross-Mehan Brakeshoe Co., both of Chattanooga, Tenn.; the entire blowing machinery for the Howard-Harrison Iron Co.'s pipe works at Bessemer, Ala., consisting of two No. 7 blowers, two No. 6 blowers, one No. 5 blower—each of these machines to be combined with an engine on same bed plate. They are very busy in every department, and orders now entered being far larger than at any former time in the history of the company.

### Leather Belting.

Although some writers contend that leather belting should be run with the flesh side to the pulley, while others are equally strong in their claim that it should run with the hair side to the pulley, they all agree that for general use there is a no more satisfactory or more economical driver than a good leather belt when properly adjusted to carefully balanced pulleys. It is estimated that every inch in width of good double leather belting, traveling at the rate of 500 feet per minute, will transmit one horse-power; and that every inch in width of good single leather belting, traveling at the rate of 800 feet per minute, will transmit one horse-power. If the belt is allowed to accumulate dust and dirt such accumulations will absorb the moisture of the belt, and it will become hard and dry and begin to crack and slip. If the face of the pulley becomes bright and smooth it shows that the belt is slipping, even though the eye fails to detect it. A belt can be cleaned by means of warm water applied with a stiff brush, or by holding a square-edged board against the belt while it is in slow motion. Belts should be cleaned regularly, and after cleaning a good belt dressing should be applied. A proper dressing will keep the belt soft and elastic. It will cause the belt to hug the pulley and transmit its greatest power. The use of a good belt dressing is superior in economy to any other method for correcting a slipping or slightly loose belt. The custom of tightening a belt whenever it slips is not a good one. The belt is liable to be made too tight, which heats the bearings and strains the belt. Great care, however, should be taken in preparing a belt dressing. Castor oil is an article in very general use, but experts have found that it contains an active acid principle, and is drying in its nature. The use of soap, rosin, tar, etc., cannot too strongly be condemned. They are only temporary stimulants and eventually destroy the belt. It is a wise policy to purchase first-class leather belting only, and then to give it the best of care.



**VICTOR COLLIAU,**  
Sole Manufacturer  
OF THE  
**Improved Patent HOT BLAST  
Colliau Cupola.**  
Address 287 Jefferson Ave.  
DETROIT, MICH.



**The COLLIAU  
PATENT  
Cupola Furnace.**

*Adapted to all Foundries,  
The Most Economical,  
The Lowest in Price.*

MANUFACTURED EXCLUSIVELY BY  
**BYRAM & CO.**  
DETROIT, MICH.

**JAS. P. WITHEROW.**  
ENGINEER & CONTRACTOR,  
**Furnace & Steel  
Plant Construction.**  
PITTSBURGH, U. S. A.

Blast Furnaces and Steel Works designed and erected complete in every detail ready for operation. Special attention given to the manufacture of

HEINE  
**Safety Water Tube Boilers.**

Owning an extensive manufacturing plant, I can guarantee promptness in execution, and satisfaction in any contracts undertaken by me.

FOR THE BEST  
**MACHINERY**

For Shingles, Heading and Staves,  
**VENEER CUTTERS  
AND  
IMPROVED  
Gauge Lathes**  
FOR  
**TURNING  
HANDLES, ETC.**  
Address

Tr: vor Mfg. Co. { Successors to } LOCKPORT  
TREVOR & CO. N. Y.

Established 1867.  
**E. Harrington, Son & Co.**  
Works and Office,  
N. 15th St. & Penna. Ave.  
Phila., Pa., U. S. A.  
Manufacturers of a full line of  
**Iron-Working  
MACHINERY,**  
INCLUDING  
Extension and Gap Lathes,  
Planers with Quick Return,  
Drills, &c., Hand Power Elevators with Patent Brake,  
Double Chain Screw Hoists  
OVERHEAD TRAMWAY, with  
Switch, Turntable and Geared  
Truck.  
Gear Cutting a Specialty.  
Send for estimates.

THE IMPROVED LANCASTER  
**Turbine Wheel.**

Write for Descriptive Catalogue



Lancaster Turbine Wheel Co. Lancaster, Pa.

**Rome Foundry & Machine Works,**  
ROME, GA.

Manufacturers of the well known

**DAVIS DOUBLE TURBINE**

**Water Wheel**



Beyond all question  
one of the best  
Wheels on the  
market, and is  
fully guaranteed.

Send for Illustrated  
Catalogue and Price-List.

ALSO MANUFACTURE  
**Portable & Stationary Engines  
AND BOILERS.**

**Grist and Flouring Mill Machinery.**

**RIEHLER BROS.**  
**PHILA. SCALE AND TESTING MACHINE  
WORKS.**

9th St. above Master. Store, 413 Market St.  
Makers of the strongest R. R. Track Scale  
in the world.

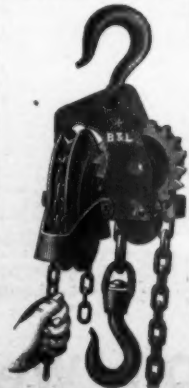


**THE PATENT RABLE JACK.**  
Anti-Friction. One man can raise  
to ton with rable jack and go ions  
with 30-ton jack. A substitute for a  
hydraulic jack at half the price.  
Saves in order. Always ready.  
Saves in order. Always ready.  
Saves in order. Always ready.

**Batts Patent Differential Hoist.**

MANUFACTURED BY THE  
**Boston & Lockport Block Co.**

162 Commercial St.  
**BOSTON.**



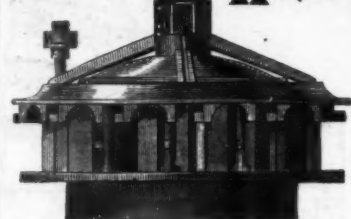
The chief merits of  
this hoist that we wish  
to bring to the public  
notice is that it only  
requires

**ONE MAN TO  
Hoist the Load.**

It is also far more  
compact, taking up less  
room than any other  
make, and will hold the  
load at any point.

Send for circular and  
prices.  
Every hoist warranted.

**SUCCESS**  
**Water Wheel.**



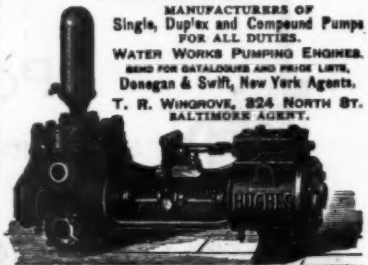
This Wheel is strong and durable. Excelled  
all other wheels in the great trial tests. Is in use  
all over the nation. I also make a specialty of  
**HEAVY GEARING & MACHINERY**

For Paper, Cotton and Grist Mills.

**S. MORGAN SMITH, York, Pa.**

**ALCOTT**  
IMPROVED TURBINE  
**WATER WHEELS.**  
MOUNT HOLLY, N. J.

**HUGHES STEAM PUMP CO.**  
CLEVELAND, O.



MANUFACTURERS OF  
Single, Duplex and Compound Pumps  
FOR ALL DUTIES.  
WATER WORKS PUMPING ENGINES.  
SEND FOR CATALOGUES AND PRICE LISTS,  
DANEGAN & SWIFT, New York Agents,  
T. R. WINGROVE, 224 NORTH ST.  
BALTIMORE AGENT.

**DON'T BUY AN  
ENGINE  
OR  
BOILER**

Until you have seen our circulars. Engines complete  
from 5 to 110 horse power, both Vertical and Horizontal,  
at prices below those of other reputable makers.  
1600 in use. Boilers of every style. Automatic  
Engines for Electric Lights. Centrifugal  
Pumping Machinery for Drainage or Irrigation.  
Established 25 years. Perfect satisfaction guaranteed.  
Ask for Circular M and address

**Morris Machine Works,**  
BALDWINVILLE, N. Y.

**THE SIMMERLY  
DERRICK.**



This is a revolving Derrick which makes a  
perfect circuit from either right or left. It can  
be worked from a lighter or Steamer same as  
on solid ground. It is adapted for the hoisting  
of stone, iron ore, coal or any material, and can  
be used with or without the bucket. Capacity in  
one lift ranges from one to five tons. Further  
particulars on application to

**Simmerly Derrick Co.**

101 Center Street, Cleveland, Ohio.

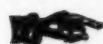
# CARROLL

The Gardiff Coal & Iron Company

GARDIFF, TENNESSEE.


THIS THIRTEENTH SHARE FOR \$100

Capital, \$5,000,000.

 **Buy the Best Stock on  
Sale in Virginia.**

## The Grottoes Company

owns 25,000 acres of the best Iron and Timber lands, and 5,000 acres of unsurpassed City Site lands, or 30,000 acres all in one body, including the famous Weyer and Fountain Caves, the noted Grottoes Hotel, a large Electric-Light Plant, two good Water Powers, twenty-five Brick and Frame Houses, a thousand acres of native forests in parks, etc., etc. It now offers 15,000 Shares of its stock (par value \$100 at \$50 per share. The buyer of 5 shares of stock will be allotted a good city lot, not less than 25x120 feet in size, without charge; and the buyer of 25 shares of stock will be allotted 5 city lots and one villa lot without charge.

 Go and see the property, where the City of Shendun is now being laid out, at The Grottoes, Shenandoah Valley Railroad, Augusta and Rockingham counties, Va., and you will agree that *nothing yet offered compares with it in intrinsic value.*

For prospectus, maps and information, address The Grottoes Company, Staunton, Va., or The Grottoes, Va.

**Jed. Hotchkiss, President,**  
Staunton, Va.

In the Heart of the Great Iron and Coal Belt of Tennessee

Financial Encouragement will be Given Every Class of Business.

# CARDIFF.

## The Cardiff Coal & Iron Company,

**CARDIFF, TENNESSEE.**

Capital, \$5,000,000.

Fifty Thousand Shares—Par \$100.

(CHARTERED BY THE STATE OF TENNESSEE.)

### PRESIDENT.

B. B. SMALLEY, BURLINGTON, VT., President of the Ogdensburg & Lake Champlain Railroad Company.

### VICE-PRESIDENTS.

W. P. RICE, FORT PAYNE, ALA.

HENRY C. YOUNG, CARDIFF, TENN., of Cordley & Co., Bankers, Boston, Mass.

GENERAL MANAGER, - - - M. M. DUNCAN.

### DIRECTORS.

THE PRESIDENT & VICE-PRESIDENTS, Ex Officio.

JOSHUA L. CHAMBERLAIN, NEW YORK CITY, N. Y., Ex-Governor of Maine and President of Bowdoin College; Ex-President of the Association of the Army of the Potomac.

WILLIAM WARNER, KANSAS CITY, MO., of Warner, Dean & Hagerman, Counsellors-at-Law; Ex-Member of Congress from Missouri, and Commander-in-Chief of the Grand Army of the Republic.

SAMUEL E. PINGREE, HARTFORD, VT., Ex-Governor of Vermont; Chairman of the Board of Railroad Commissioners of Vermont.

CHARLES L. JAMES, BOSTON, MASS., of James & Abbot, Lumber.

T. G. MONTAGUE, CHATTANOOGA, TENN., President of the First National Bank of Chattanooga; Director of the Roane Iron Co.

ROBERT PRITCHARD, CHATTANOOGA, TENN., of Pritchard, Sizer & Thomas, Counsellors-at-Law.

J. F. TARWATER, ROCKWOOD, TENN., of Tarwater & Brown, Iron Miners.

J. M. FORD, KANSAS CITY, MO., President of the Fort Payne, Ala., Furnace Co., and of the First National Bank of Denison, Texas.

CARLOS HEARD, BIDDEFORD, ME., Merchant.

JOHN M. WHIPPLE, CLAREMONT, N. H.

### FISCAL AGENTS IN THE NORTH.

CORDLEY & CO., BANKERS, 121 Devonshire Street, Boston, Mass.

### BANKERS IN THE SOUTH.

FIRST NATIONAL BANK OF CHATTANOOGA, TENN.

### TRANSFER AGENTS.

AMERICAN LOAN & TRUST COMPANY, BOSTON, MASS.

THE CARDIFF COAL & IRON COMPANY, at a public sale held April 22d to 24th sold over one million dollars' worth of business and residence property to investors, who will build on and improve the same at once. The prices were conservative and maintained within the limits of actual value. The proceeds of this sale, together with the sum to be contributed by the Cardiff Coal & Iron Company from the sale of its treasury stock, gives the management two million dollars, all of which will be expended in building up the town. The place does not exist that can approximate the inducements that this city now offers to every class of industry and manufacture.

**SITUATED IN A HEALTHY CLIMATE,**

**SUPPLIED WITH PURE WATER,**

**EXCELLENT TRANSPORTATION FACILITIES,**

## In the Heart of the Great Iron and Coal Belt of Tennessee,

Surrounded by a rich agricultural community, with every class of business sustained by the demands of the country, Cardiff will furnish to the Manufacturer, the Merchant, the Banker, the Professional Man, the Farmer, the Miner, the Laborer all that reason demands.

**Financial Encouragement will be Given Every Class of Business.**

The Cardiff town site contains over 3,000 acres. The building of Cardiff is in charge of men of approved judgment and experience. The town will be developed by the erection of Iron Furnaces, Coke Ovens, Hotel, Water Works, Motor Line, Electric Lights, Manufacturing Plants, Public Buildings.

THE PLACE FOR FACTORIES.

THE ROANE IRON CO.

WILL BUILD UP A

\* LARGE MANUFACTURING CITY \*

AT  
ROCKWOOD, TENN.

AND IS PREPARED TO OFFER SUBSTANTIAL INDUCEMENTS TO MANUFACTURERS.

— AS TO RESPONSIBILITY OF THIS COMPANY, PARTIES ARE REFERRED TO EITHER DUNN OR BRADSTREET. —

FOR PARTICULARS ADDRESS

ROANE IRON CO., Rockwood, Tenn

BEDFORD CITY, VA.

(FORMERLY LIBERTY.)

The Most Beautiful Residence Portion of this Growing City is

\* LONGWOOD PARK, \*

The Property of the Longwood Land & Improvement Co.

The property is within five minutes' walk of the N. & W. R. R. depot. It is intersected by broad, oak-shaded avenues, and divided into building lots averaging ninety feet front by 230 feet deep. A superb view of the beautiful Peaks of Otter visible from every part of the property. Prices range from \$6 to \$12 per front foot, according to location, &c.

No Better Investment can be made than in Lots in Longwood Park, at these Prices.

THE CITY HAS AN ESTABLISHED SOCIETY.

Churches, Schools and Academies, (among them the finest in the South,) Manufactures of many kinds, a magnificent supply of Free-stone Water, systems of Arc and Incandescent Electric Lighting, admirable Railroad Connections, a surrounding country of unlimited Mineral Resources and Great Fertility. For further information apply to

R. KENNA CAMPBELL, Gen. Manager

The Longwood Land & Improvement Company.

# GRAND AUCTION SALE OF LOTS

AT

## MARION, N. C.

THE MAGNETIC CITY OF THE MOUNTAINS.

Wednesday, Thursday and Friday,  
August 27, 28, 29, 1890.

The Largest Auction Sale of Lots ever held in the South.

People will attend from all parts of the Union.

*CHEAP EXCURSION RATES ON ALL RAILROADS.*

Five Large Land Companies already Organized

AND INCORPORATED TO PROMOTE THE INTERESTS OF MARION.

Choice Business and Residence Lots

WILL BE SOLD WITHOUT RESERVE.

Present Population 1,500 People. Altitude 1,800 Feet.

Heretofore this, the Richest Country in Natural Resources on Earth, has had no Transportation Facilities, and has been inaccessible.

---

## Marion Soon will be the Only Point

IN

The Richest Iron Country in the World.

The Greatest Timber Country on Earth.

The Most Wonderful Marble Country in America.

The Finest Manganese Country known.

The Greatest Mica Producing Country on Earth.

The Richest Gold Mining Country east of the Mississippi River.

The Finest Talc Producing Country in the Union.

The Best Fruit and Stock Raising Country known.

The Best Farming Country in the World.

The Finest Climate on Earth.

The Finest Mountain Scenery in America.

**That will have Cross and Competitive Railroads.**

PLANT YOUR MONEY WHERE IT WILL GROW,

IN THE

# Magnetic City of the Mountains.

FOR PARTICULARS ADDRESS

## Old North State Land Company,

MARION, N. C.

**Col. C. V. WALKER** of Augusta, Ga., Auctioneer for the South.

**Capt. JACK STEWART**, of Kentucky, Auctioneer for the North.

**FOR SALE.**

We have for sale one tract of land of  
**54,932 ACRES,**  
 IN BRAXTON CO., WEST VA.  
 Virgin, Forest, Oak, Hickory,  
 Walnut, &c., and  
 Coal in Great Quantities.

Also one tract of about  
**40,000 ACRES,**  
 IN  
 Bath, Augusta, Highland and Rockbridge  
 Counties.

Timber in great abundance. Estimated  
 3,000,000 ties and 30,000 cords tan bark,  
 also immense amount saw timber, on less  
 than half of the land. Within 4½ miles  
 of C. & O. Railroad.

**TITLES PERFECT.**

Abstracts of title and maps furnished.  
 Will take pleasure in giving information  
 and showing properties to persons con-  
 templating purchasing. Apply to

**ALLEN, TOMPKINS & HATCHER,**  
 Real Estate Agents,  
**SALEM, VA.**

**West Salem Land Co.**

**SALEM, VA.**

**Authorized Capital, \$500,000**

OFFER STOCK IN

**Series C, New Castle Series.**

**SHARES \$10**

**PAR VALUE.**

**ARE SOLD TO SUBSCRIBERS AT \$5.**

Payable, One Dollar When Subscription is  
 Made, and One Dollar Each June 1, July  
 1, August 1 and September 1; at which  
 time Certificates of Stock will be issued,  
 declared Fully Paid up and Non-assessable.

The town of New Castle (or Craig City) is the  
 county seat of Craig county, Va., and lies midway  
 between the Chesapeake & Ohio Railroad at Eagle  
 Rock, and the Norfolk & Western at Salem, Va.  
 A branch of the Chesapeake & Ohio Railroad is  
 now being built to New Castle, which will be com-  
 pleted about Sept. 1, 1890. This road will open up  
 the richest mineral region of Virginia, and cause  
 great development of resources and consequent  
 enhancement of values.

The property belonging to this series will be  
 divided into about 600 business and residence lots,  
 and will be sold for the benefit of the stock-  
 holders. Applicants for stock in series C will  
 please remit \$1 per share to the West Salem Land  
 Company at Salem, Va.

**GEORGE ALLEN, President,**  
**C. C. TOMPKINS, Secretary.**

**JOE H. BUSBEY****REAL ESTATE**

—AND—

**Investment Agency,****TREDECAR**

(P. O. Jacksonville, Calhoun County, Ala.)

Correspondence solicited.

To Those Looking For  
**MANUFACTURING SITES**  
 IN THE SOUTH.

The most desirable locations in the  
 South for manufacturing wagons, stoves,  
 agricultural implements, furniture, or for  
 foundries, machine shops, rolling mills,  
 muck bar mills, nail works, glass works,  
 cotton or woolen mills, and tanneries, are  
 to be found in Virginia along the line of  
 the Norfolk & Western Railroad from Nor-  
 folk to Bristol, and upon its branch lines.  
 Hard wood of every variety; pig iron from  
 the furnaces at Lynchburg (2), Roanoke  
 (2 in operation and 1 now under con-  
 struction), Pulaski (1), Ivanhoe (1), Rad-  
 ford (1, to be built in 1890), Salem, Graham  
 Max Meadows and Bristol (1 at each point  
 now under construction), bar iron from the  
 rolling mills at Roanoke, Lynchburg and  
 Richlands (1 to be built in 1890); coke and  
 semi-bituminous coal from the Pocahontas  
 Flat Top field; superior gas coals from the  
 mines on the Clinch Valley Extension;  
 glass sand from Tazewell county; cotton  
 from the markets of the Southern States,  
 and wool from all the Western and South-  
 western States and Territories at advan-  
 tageous freight rates. Favorable freight  
 rates made upon raw materials to all fac-  
 tories established upon its line, as well as  
 to points in the United States and Terri-  
 tories upon the manufactured articles.

Those seeking new fields for manu-  
 facturing establishments should not fail to in-  
 vestigate the wonderful development of  
 iron, coal and coke industries that has been  
 made within the past five years along the  
 line of the Norfolk & Western Railroad,  
 and the advantages offered by the State of  
 Virginia in the supply of cheap raw ma-  
 terials; by the Norfolk & Western Rail-  
 road in the matter of freight facilities and  
 rates upon raw materials and for reaching  
 home, far distant and foreign markets, and  
 by the cities and towns along its line in  
 the way of advantageous sites at moderate  
 cost. Many of the cities and towns exempt  
 manufacturing establishments from taxa-  
 tion for a series of years.

For further information as to freight  
 rates and sources of supply of raw ma-  
 terials, apply to A. Pope, General Freight  
 Agent, Roanoke, Va., or to

**CHAS. G. EDDY,**  
 Vice-President, Roanoke, Va.

**DENISON,**

**TEXAS.**

THE  
**Future Manufacturing and Commercial Center**  
 OF THE  
**GREAT SOUTHWEST.**

**DENISON SUPPLIES THE COAL FOR TEXAS.**

She has at her gates the only **COKING COAL** of any value in the Mississippi  
 Valley. To the Southwest lies the best **MAGNETIC IRON ORE** in the world,  
 while to the north and Southeast are fields of **BROWN HEMATITE ORE** of  
 the finest grade. These ores must meet the **COKE** and **COAL** at **DENISON**  
 and there to be worked.

**DENISON** cannot be surpassed for **HEALTHFULNESS** and **BEAUTY**  
 of location. Six divisions of railways terminate at Denison and are operated by  
 her citizens.

**DENISON** has an abundant supply of pure, soft water and plenty of good,  
 cheap **BUILDING MATERIAL.**

The attention of investors and those seeking advantageous locations for business  
 or for manufacturing plants is invited to the opportunities presented at Denison.

**MUNSON & BRO. HAVE SUPERIOR FACILITIES FOR THE SAFE AND  
 PROFITABLE INVESTMENT AND HANDLING OF CAPITAL.**

For information about **DENISON** and for bargains in **BUSINESS** and **RESI-  
 DENCE PROPERTY, ACRE PROPERTY** and **FARMS NEAR THE CITY**, write  
 or call upon

**MUNSON & BRO.**

**301 WOODWARD STREET,**

**DENISON, TEXAS.**

Six Trunk Line Railroads at  
**BESSEMER**

✻ In the heart of Mineral Alabama, encircled with hills of  
 Coal, Iron and Limestone Rock. ✻

"The South is the coming El Dorado of American adventure. May the Almighty speed and guide  
 her onward progress!" So wrote the Hon. W. D. Kelley, M. C., of Pennsylvania, a few months ago,  
 and every day brings forth new evidence to prove the correctness of his prediction and to show that  
 without a doubt the South is to be the richest country upon the globe. In climate, soil, mineral and  
 timber wealth, in rivers large and small, in a long seacoast, in abundant rainfall, in healthfulness and  
 in every other advantage that could be asked nature seems to have done her best for this favored  
 land. The wealth in iron and coal is beyond estimate. Of timber there is an unlimited supply,  
 including nearly every variety of hardwoods for woodworking purposes.

**WHERE  
 MONEY  
 WILL  
 GROW!**

Seven Furnaces, output 1890, 250,000  
 tons; Rolling Mill, 100 tons daily;  
 Fire Brick Works, 25,000 daily;  
 Many Lesser Industries

**Offers Thirty Varieties of Hardwoods  
 for Woodworking Industries.**

**11,000 City Lots For Sale.**

**The Bessemer Land & Improvement Co.**

this new year, are prepared to deal liberally for the found-  
 ing of Iron and Woodworking industries in this growing  
 Mining and Manufacturing Center.

**H. F. DeBARDELEBEN, Prest.**  
**H. M. McNUTT, Secretary.**

J.W. SHANKLE, President.

J. JOHNSON, Secy.

L.D. WOODS, Vice Pres.



**THE CONSOLIDATED  
ICE MACHINE  
MANUFACTURERS  
ICE MAKING  
AND  
REFRIGERATING MACHINERY.**

ESTIMATES  
AND  
CIRCULARS  
UPON  
APPLICATION

WEST 18TH ST. VIADUCT  
**CHICAGO, ILL.**

# 246 MACHINES

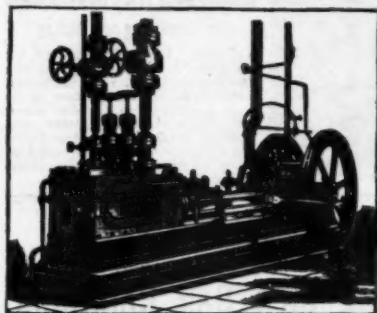
IN OPERATION

Making Ice—Refrigerating, Breweries, Packing Houses, Cold Storage Houses, Oil Refineries, Creameries, Hotels, &c.

**BUY THE BEST AND SAVE MONEY.**

All machines built by us are made to gauge and templet. Highest economy secured. Best results obtained. Machines in steady operation for more than ten years.

**NO FAILURES.**



FOR  
**Ice-Making and Refrigerating  
MACHINERY,**  
Sizes 5 tons and upwards to 100 tons,  
ADDRESS THE  
**Rinz Refrigerating & Ice Machine Co.**  
OFFICE:  
218 CHAMBER OF COMMERCE,  
ST. LOUIS, MO.

L. H. BECK, President.

JNO. CAREY, Secy. &amp; Treas.

W. COOK, Superintendent.

**ATLANTA MACHINE WORKS,**  
MANUFACTURERS OF

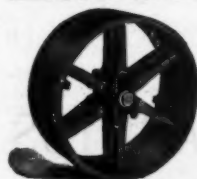
## The Cook Improved Absorption Ice Machine

Bollers, Tanks, Smoke Stacks, Shafting, Hangers, Pulleys,  
Saw Mills, Mill Gearing.

**GOLD MINING AND STONE-WORKING MACHINERY.**

ATLANTA, GA.

## Menasha Hard Wood Pulleys.



We are sole makers of hardwood bent rim, oak spoke arm Pulleys: gripped to shaft with bolts, and using patent paper bushings. They can be put onto shaft without taking it down or cutting keyseats. No glue or nails used in their construction. Hub with bushing fits any size of shaft.

Also sole makers of only small Split Pulley 1 inch to 8 inches in diameter, in the market. See above cuts of them. No glue or nails in them. No Keyseats to cut. Also sole makers of only Hickory Hanger in the market; it has iron box. Send for illustrated circulars and discount.

**MENASHA WOOD SPLIT PULLEY CO., Menasha, Wis.**

BRANCH HOUSES: Hoen & Von Kapff, Baltimore, Md.; A. Van Vechten & Co., 165 Greenwich St., New York; H. N. Bates & Co., Boston; Chas. A. Turner, Pittsburgh, Pa.; Greene & Wood Mfg. Co., Philadelphia, Pa.; W. D. Allen & Co., Chicago and Minneapolis; E. L. Cole, New Orleans, La.; Thos. J. Bell & Co., Cincinnati; L. M. Rumsey Mfg. Co., St. Louis.

## Todd Pulley and Shafting Works

EAST ST. LOUIS, ILL.

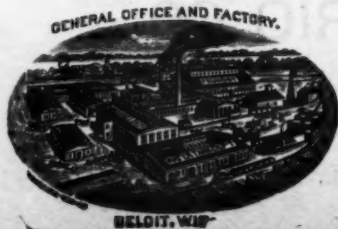
MANUFACTURERS OF

**Machine Molded Pulleys,**  
HANGERS, BOXING, COUPLINGS,  
**SHAFTING,**  
AND  
**Standard BOILER FRONTS**

Contracts Made for Machinery Castings of all Descriptions.

Write for Prices and Catalogues.

Refer to us Before Buying.



BELOIT, WIS.

## ECLIPSE FRICTION CLUTCH PULLEYS AND CUT-OFF COUPLINGS.

SEATTLE, WASHINGTON TERR., 5 26, 1899.

Eclipse Wind Engine Co., Beloit, Wis.

DEAR SIR: The Clutch Pulley (diam. 106 in., face 21 in) works satisfactorily in every particular, and is a great convenience. We have two, and can stop either the main saws or the gang edger, or both whenever desired, without stopping the engines.

Yours respectfully,  
Yeaser Wood, Coal & Lumber Co.,  
J. D. Lowman, Sec'y.

**ECLIPSE WIND ENGINE CO., - Beloit, Wis.**

Send for July, 1899 catalogue, and see where and by whom they are

## ARCTIC ICE MACHINE

**Manufacturing Co.**

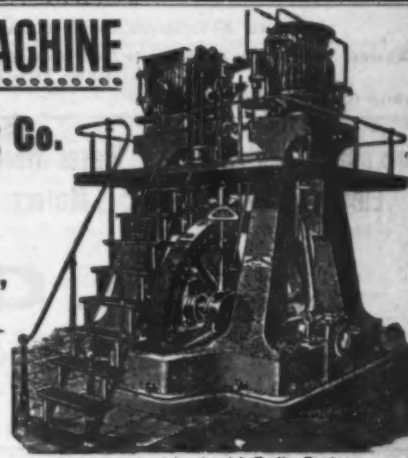
CLEVELAND, OHIO.

OFFICE AND WORKS,

4, 6, 8, 10 WEST ST.,

P. O. Box 92.

OUR OWN SHOPS.  
MACHINES CARRIED IN STOCK  
AND ORDERS  
PROMPTLY EXECUTED.



The Improved Arctic with Corlies Engine.

## Castle Automatic Absorption Ice Machine.

Uses but 210 degrees of heat in the retort, saving all the water for cooling the gas and the weak liquor from 350 degrees down to 210 degrees, and uses none for the absorber. Small machines are complete on heavy-cast foundation plate. Automatic in operation. **Warranted High-Class and Positive.** Hotels, creameries, &c., can make their own ice or refrigerate without additional help. Sizes 500 pounds to 10 tons per 24 hours.

**CASTLE ENGINE WORKS, Indianapolis, Ind.**

## ICE MACHINE PAINT.

Made expressly for use on all surfaces of either wood or metal coming in contact with water, acids, ammonia, heat or cold. A DURABLE PAINT AT REASONABLE COST.

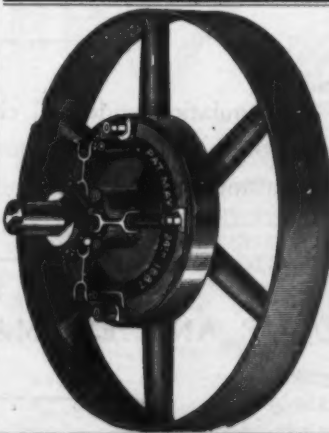
**METALLIC PAINT FOR ROOFS, BARNES, FENCES and all Exposed Surfaces.**

Write for circulars and prices. Manufactured only by

**A. F. BOUTON & CO., 118 Gansevoort St., N. Y.**

## WEBSTER FILE WORKS, HAND-CUT FILES

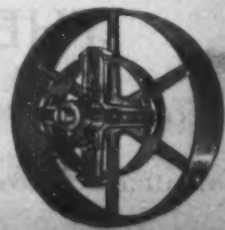
Manufacturers of COURT STREET, TAUNTON, MASS.



## The MOORE & WHITE CO

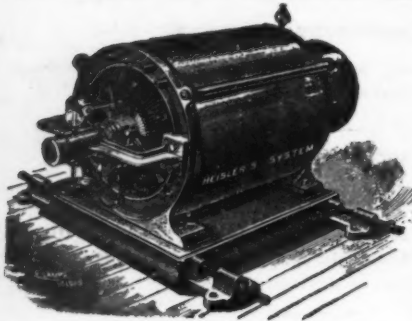
1312 Buttonwood St., PHILADELPHIA, PA.

**Friction Clutches,**  
**Cut-Off Couplings, &c.**  
**Paper Mill  
Machinery, &c.**



## THE HEISLER PATENT Long Distance Incandescent Electric Light System.

UNEQUALLED FOR DISTRIBUTION OVER WIDE AREAS.



**S**PECIALLY ADAPTED FOR STREET, COMMERCIAL & DOMESTIC ILLUMINATION FROM CENTRAL STATIONS.

Plant may be located where power can be secured cheapest, even if miles distant from the lighting. Safety, Reliability, and Financial Success fully demonstrated. Plan of Wiring the Simplest, Cheapest and most Efficient. Strictly Series. Noted for the Brilliance and Beauty of the Light. Lamps, 10 to 100 Candle Power; Long Life without Blackening. Dynamo Self-contained and perfectly Automatic.

**Heisler Electric Light Company,**

809 to 817 South Seventh Street, ST. LOUIS, MO.

"Awarded the Highest Distinction—a Gold Medal—by the International Jury at the Universal Exposition, Paris, 1889."

Send for Circulars.

Correspondence Solicited.

Arc and Incandescent Electric Lights.	Water Works, Motors.	Illuminating and Fuel Gases.
--	-------------------------	---------------------------------

### L. N. COX,

16 Fifth Street, S. E.

WASHINGTON, D. C.

Correspondence Solicited. Plans, Specifications, Estimates, &c., cheerfully furnished.

Subscribe to the **MANUFACTURERS' RECORD**  
Price \$4.00 a year or 6 months for \$2.00.

## The New Industrial Light "Lucigen"

**BRILLIANT, POWERFUL AND DIFFUSIVE.**

Burns Petroleum Oil Sprayed by Compressed Air.

**SIMPLE, SAFE AND ECONOMICAL.**

Thousands in use in Iron Works, Machine Shops, Railroad Yards, etc., etc., in Europe and in the United States.

Lamps and Burners from 200 to 10,000 Candle Power.

MANUFACTURED BY THE

**INDUSTRIAL LIGHT COMPANY,**  
196 Temple Court, New York City.

AUTHORIZED REPRESENTATIVES—Rand Drill Company, New York City; Buffalo Engineering Co., 228 Pearl Street, Buffalo, N. Y.; W. H. Carruthers & Co., Chamber of Commerce Building, St. Louis, Mo.; Joseph Parks, Bay View, Milwaukee, Wis.; Isaac Reynolds, 5 Euclid Avenue, Cleveland, Ohio; Parvin & Co., 133 S. Fourth Street, Philadelphia, Pa.



## The CLEVELAND GAS MACHINE CO.

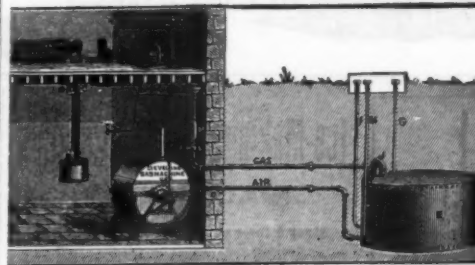
176 CENTRAL WAY,  
CLEVELAND, O.

MANUFACTURERS OF

**Improved Gas Machines**

For Illuminating and Heating

purposes. Especially adapted for Canning Factories, Mills, Churches and Stores; Country and Suburban Residences requiring from 20 to 1,000 lights; also Gas-Soldering and Metal-Heating Outfits and Special Machines for Meat-Packing Establishments. Correspondence solicited. Send for illustrated circular.



**SAVE GAS. REDUCE BILLS AND SECURE BETTER LIGHT.**

USE

## The American Gas Saving Co's Gas Controller.

Over 200,000 in use. Saves from 15 to 50 per cent. according to pressure in mains.

Adopted by U. S. Government after competitive tests; New York Elevated Railroad (saving \$11,519.37 in five months, over \$100,000.00 in five years). In use in thousands of Mills, Factories, Hotels, Depots, Public Buildings and Private Houses. Send for descriptive circular and testimonials. Find size of meter on brass plate in front with maker's name.

Full directions for attachment and testing sent with each. Controllers sent for trial on receipt of price, and money refunded, less express charges, if unsatisfactory and controllers returned in good order. All orders C. O. D. Agents wanted.

**AMERICAN GAS SAVING CO.,** - - - 35 Broadway, N. Y.

# FOR INCANDESCENT LIGHTING

For Central Stations and Isolated Plants

## THE THOMSON-HOUSTON DIRECT CURRENT APPARATUS HAS NO EQUAL.

The Dynamos are Automatic in Regulation under all changes in load, and in Mechanical Design and Construction have points of excellence not found in those of other systems. The Lamps are Durable and Efficient, and under repeated tests have burned three times their guaranteed life without blackening of the bulb or diminution of the candle power.

CATALOGUE AND ESTIMATES UPON APPLICATION!

## THE THOMSON-HOUSTON ELECTRIC CO.

620 Atlantic Avenue, BOSTON, MASS.

148 Michigan Avenue, CHICAGO, ILL.

Wall and Lovd Streets. ATLANTA, GA.

403-405 Sibley St., ST. PAUL, MINN.

# THE WASHINGTON HYDRAULIC PRESS BRICK COMPANY,

MANUFACTURERS OF  
Ornamental and Plain Front Pressed Brick in Red, Brown,  
Gray and Buff Colors, also Rock-Faced and Roman Brick.

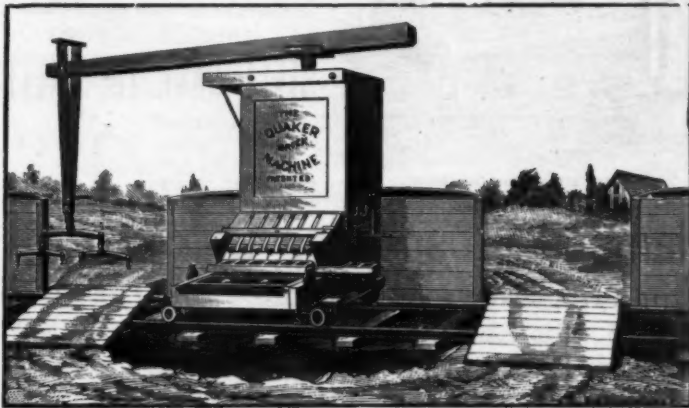
Brick for Arches Ground to any Radius.

Correspondence and Inspection of Works Solicited.

OFFICE: Kellogg Building, Washington, D. C.

Works at Waterloo, Va.

## Improved Brick Machinery AND BRICK MAKERS' SUPPLIES.



THE NEW QUAKER HORSE-POWER BRICK MACHINE,

Capacity 15,000 to 20,000 per day. Steam-power 25,000 to 40,000 per day.

Spiral Pug Mills, Mold Sanding Machines, Molds, Barrows, Trucks, &c., &c. We contract to furnish and Equip Complete Yards, Engines, Boilers, Shafting, Pulleys, Belting, &c., &c. Send for illustrated Catalogue. Correspondence Solicited.

FLETCHER & THOMAS, Indianapolis, Ind.

## Chambers' Brick Machinery



15,000, 25,000, 50,000 per day Capacity.

GUARANTEED AND FURNISHED ON THIRTY DAYS' TRIAL.

CHAMBERS BROS. CO., Philadelphia, Pa.

## 8 DIFFERENT KINDS. BRICK MACHINES CAPACITY 10,000 to 100,000 PER DAY.



Write for Catalogue to THE FREY, SHECKLER COMPANY, BUCYRUS, OHIO, U.S.A.

**BRICK-MAKER'S SUPPLIES**

TRUCKS, MOLDING, BARROWS, & C. C. MACHINES, FOUNDRY WORK.

G. W. RAYMOND & CO. DAYTON, O.



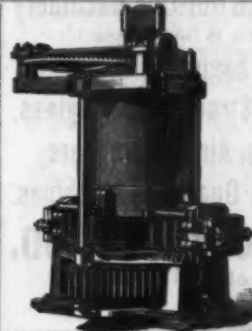
Send for Illustrated Catalogue.

Mention Manufacturers' Record.

**Brick and Terra Cotta Machinery**

Steam Sewer Pipe Presses, Dry Pans for Grinding Clay, Wet Pans for Tempering Clay, Pug Mills and Engines. Complete Outfits.

STEVENSON & CO., Wellsville, O.



## Brick Machinery

Capacity 15,000 to 100,000.

Pug Mills, Crushers, Elevators, Etc.

Full Outfits a Specialty. Satisfaction Guaranteed.

ADDRESS

J. W. PENFIELD & SON

WILLOUGHBY, OHIO, U. S. A.

ESTABLISHED 1847.

BALTIMORE MILL FURNISHING WORKS.

B. F. STARR & CO. BALTIMORE, MD.

MANUFACTURERS OF

BURR STONES FOR ALL PURPOSES.

Portable Mills, Roller Mills, Smut Machines, Shafting, Pulleys, Gearing and General Mill Machinery.

Importers of Bolting Cloths and General Mill Furnishings. The Leading Mill Furnishing House on the Atlantic Seaboard.

## FRENCH BURR MILLS,



These Mills are especially adapted to the Southern trade for making Fine Meal. They are guaranteed to be the best mills manufactured for grinding Oil Cake, Meal, Coprolites, Mineral Flints, Cement and Cotton Seed. Also the best and cheapest Cotton-Seed Huller ever offered to the trade. Write for particulars and samples of ground material. Address

WALDRON & SPROUT, Muncy, Pa.

Manufacturers of French Burr Mills, Flour Bolts, Corn Meal Sieves, Wheat Securers and Cleaners, Corn Ear Crushers, &c.

ESTABLISHED 1832 ON PRESENT PREMISES.

The Best

—IS—

ALWAYS

—THE—

Cheapest.



Therefore

BUY OUR

COLOPHINE

—OR—

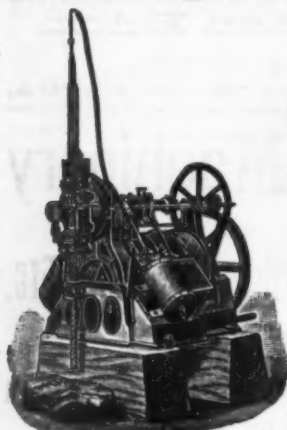
Perfect Oils

The above are our specialties in MACHINERY OILS, and are the best oils for the price manufactured. We can give you anything in the OIL LINE, any grade, at the very lowest prices. Correspondence solicited.

WM. C. ROBINSON & SON,  
MANUFACTURERS AND DEALERS IN OILS,

217 South Street Baltimore, Md.

## BUY THE BEST. Bullock's Diamond Prospecting Core Drills,



Diamond Prospecting Drill.

For Surface or Underground Prospecting.  
The Only Drills that will give an Accurate Record  
of every Strata Penetrated.

ALL DRILLS SOLD WITHOUT RESTRICTIONS.

Lane's Band Friction Hoisting Machinery

Drums from 2 Feet to 25 Feet in Diameter.

Improved Corliss Engines,

Slide Valve and Straight Line Engines,

Eclipse Rock Drills, Air Compressors,

Channeling and Quarrying Machines.

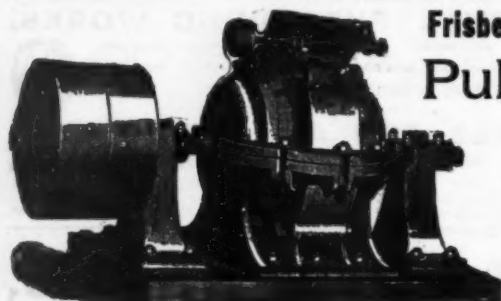
**M. C. BULLOCK MFG. CO.**

No. 138 Jackson Street,

Write for what you want.

CHICAGO.

Cable Address: BULLOCK, CHICAGO.



## Frisbee Lucop Mills for Pulverizing.

At half the cost of that by  
Buhr Stones. Used by leading  
Cement and Fertilizer Manu-  
facturers. Finished Product.  
No Tailings. Capacity up to  
3 tons per hour. Record of  
constant use for 6 years.

**FRISBEE LUCOP MILL CO.**

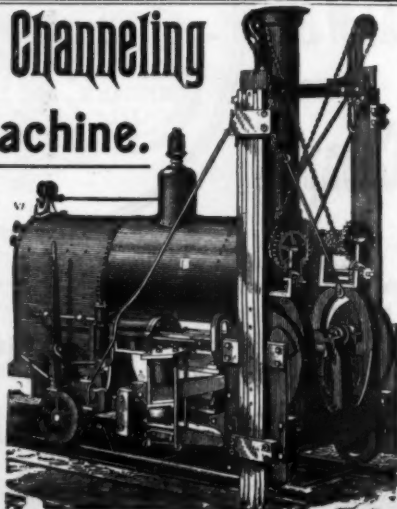
145 Broadway, New York.

**The New Griffin Mill**  
combines economy with efficiency. Send  
for Descriptive Pamphlet to the Bradley  
Fertilizer Company, Boston, Mass., Agents.

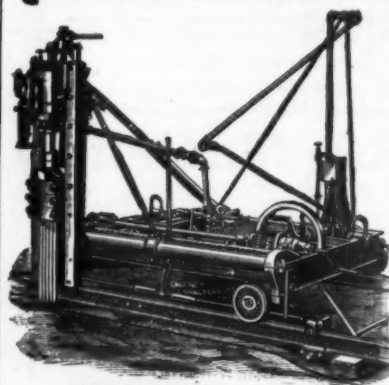
## THE Wardwell Stone Channeling AND Quarrying Machine.

**W**ILL pay for itself in a short  
time in reduced cost of getting  
out Stone. Has no equal for  
efficiency and economy of op-  
eration. Pronounced by those who  
have used it the best machine for  
the purpose in the world. Send for  
illustrated catalogue, with full descrip-  
tions and letters from parties now  
using the machines.

**Steam Stone Cutter Co.**  
RUTLAND, VERMONT.



## SULLIVAN DIAMOND POINTED AND STEEL QUARRYING MACHINERY.



SULLIVAN STEEL GANG CHANNELER.

Adapted in design and  
construction to do rough  
work, with high econ-  
omy of steam and few  
repairs, and with the greatest ease and convenience of operation.

Diamond Channelers,  
Steel Channelers,  
Diamond Gadders,  
Diamond Prospecting Core Drills.

WE HAVE RECENTLY PUT ON THE MARKET A

**DIRECT ACTING  
STEEL GANG CHANNELER**



CORE DRILL—HAND-POWER.

## Diamond Prospecting Co.

15 & 17 N. CLINTON ST., CHICAGO, ILL

GENERAL AGENTS FOR

Sullivan Diamond Pointed & Steel Quarrying Machines

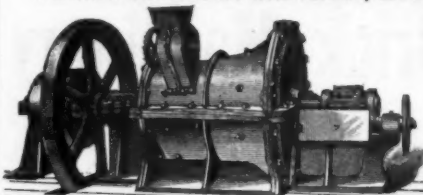
and Diamond Prospecting Core Drills.

**QUARRY HOISTS. STEAM PUMPS. BOILERS.**

Contractors for Prospecting with the Core Drill.

## The Greatest Pulverizer in the World.

Pulverizes from 10 to 160 mesh fineness, and has a capacity of 1 to 3 tons per hour.



For pulverizing Phosphates, Plumbago,  
Cement, Foundry Facings, Iron for  
Pulps, Gold and Silver Ores, Flint Rock  
for Glass, Coke for Carbons, Palats,  
Asphalt Materials, Feldspar, Red Ochre,  
Sandstone, Limestone and Calcined Lime.  
Correspondence solicited. Send for sam-  
ples of different products.

**F. H. MOORE,**  
Manufacturer,

48 City Hall Bldg., Cleveland, O.

SEND FOR  
CIRCULAR.



## Cornish Rolls Pulverizer.

SIMPLE, DURABLE, COMPACT, DUSTLESS.

Finished Product Direct from the Machine.

The Best Ore Granulator for Leaching and  
Concentration in the World.

MANUFACTURE ALSO THE

**GATES ROCK and ORE BREAKER.**

Capacity the Greatest.

Requires the Least Power.

**UNEQUALLED FOR BALLAST, ROAD,  
METAL ORE CRUSHING.**

Fine Crushing Plants  
a Specialty.

Concentrators and Other  
Mining Machinery.

**GATES IRONWORKS**

PATENTED

June 27, 1882.

Dec. 19, 1882.

Oct. 9, 1882.

June 9, 1885.

15 Franklin Street, Boston, Mass.

44 Dey St., New York, U.S.A. 75a Queen Victoria St., E.C. London, Eng.

50 H. South Clinton St., Chicago, U.S.A.

**WILLIAMSPORT WIRE ROPE CO.**

MANUFACTURERS OF

Iron, Steel and Galvanized

**WIRE ROPE**

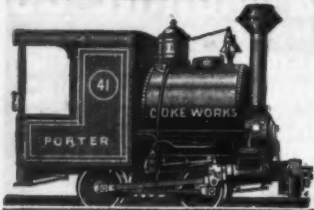
STREET CABLES A SPECIALTY.

WILLIAMSPORT, PA.

Correspondence Solicited with Southern Coal and Quarry  
Companies.

**Lincoln Iron Works. Machinery**  
RUTLAND, VT. For working Marble, Stone and Wood Shafting,  
Pulleys and Gearing. Send for Catalogue.



**H. K. PORTER & CO., PITTSBURGH, PA., U. S. A.****Light Locomotives and Noiseless Motors**

All gauges of track for Passenger and Freight Service, Logging Railroads, Mines, Blast Furnaces, Steel Works, Coke Ovens, Contractors' Work and Plantations.

All sizes and patterns, adapted to steep grades and sharp curves. Noiseless and smokeless. Cheaper and more reliable and efficient, and less objectionable than electric or cable system.

Photographs and illustrated catalogue on application. In writing mention MANUFACTURERS' RECORD.

Memo.—All work STEEL FITTED and built to duplicate system. Extra parts kept in stock. We keep on hand, ready for immediate shipment, LOCOMOTIVES AND MOTORS OF SEVERAL SIZES, WIDE OR NARROW GAUGE.

**Richmond Locomotive & Machine Works, Richmond, Va.**

ESTABLISHED IN 1885.

Builders of

**LOCOMOTIVES**

for every variety of service to Standard Designs or to meet views of purchasers.

**MOTORS**

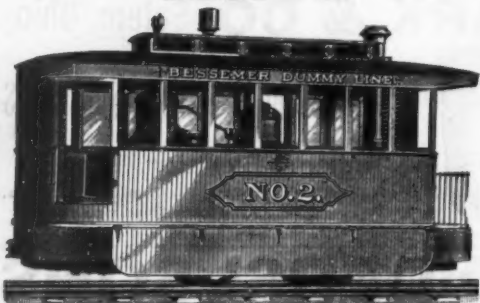
for Street Railways, Tram Roads and Mines.

Stationary Engines for heavy duty.

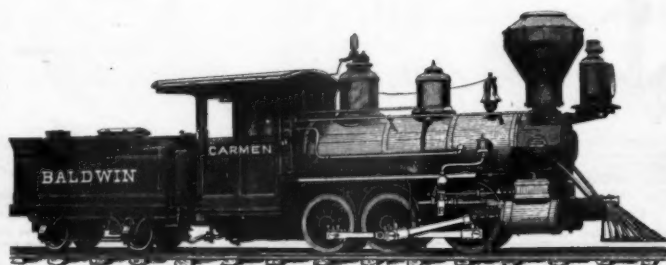
**BOILERS,**

Standard or Special.

Send for Catalogues, Specifications and Estimates.

**BALDWIN LOCOMOTIVE WORKS**

ESTABLISHED 1831.



ANNUAL CAPACITY 800.

**DYOTT & CO. 52 WALL STREET NEW YORK.****RAILROAD EQUIPMENT**

AND SUPPLIES,

Locomotives, Cars, Rails, FASTENINGS, SPIKES, ETC.

Frogs, Crossings, Switches, &c.

Securities Negotiated. Contracts Taken.



ESTABLISHED 1847.

PHILADELPHIA.

**A. WHITNEY & SONS, WChilledheels for Engines and Cars,**

Cast in the Whitney Contracting Chill and Warranted Smooth and Round Without Grinding.

STEEL-TIRED WHEELS WITH CAST-IRON CENTRES, SPOKE OR PLATE PATTERN.

**Knoxville Car Wheel Co**

KNOXVILLE, TENN.

Manufacturers of all kinds of

**CHILLED WHEELS**

For Railroads, Street Railroads, Ore and Coal Mines and Lumbermen.



Steam Hammers,  
Foundry Cupolas,  
Derricks, Crabs,  
Horse-Powers,  
Shieves, Drill Heads,  
Gearing, Pulleys.  
Locomotives and Engines  
Repaired and Indicated.

CORRESPONDENCE SOLICITED.

Guild's Automatic  
Boiler Cleaner,  
Car and Locomotive Castings.  
Soft Iron Castings of all kinds.  
Heavy Castings a specialty.  
Wheels mounted on Axles if  
desired, with Oil Boxes  
and Bolts.

MENTION THIS PAPER.

**Locomotive Engines, Locomotives for Logging**

Adapted to every variety of service, and built accurately to standard gauges and templates.

RAILROADS AND SUGAR ESTATES.

Steam Tramway Motors, Mine Locomotives, Furnace Locomotives.

Burnham, Parry, Williams & Co., 500 N. BROAD STREET, Philadelphia, Pa.

In writing, please refer to Manufacturers' Record.

**STEEL RAILS****PENNSYLVANIA**

Standard Sections

Light Sections

Street Rails

Fish Plates,  
Frogs, Switches

STEPHEN W. BALDWIN  
SALES AGENT

16 lbs. Full Size.

**STEEL COMPANY**

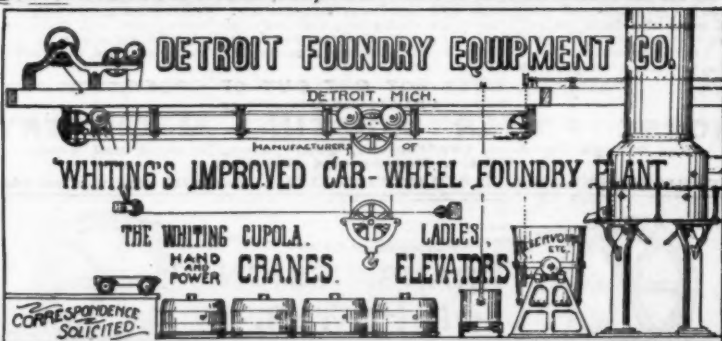
50 to 80 lbs. per yard

16 " 45 " " "

30 " 88 " " "

Bolts & Nuts,  
and Crossings.

NO. 2 WALL STREET  
NEW YORK N.Y.



**MINER & PECK M'F'G CO.**  
SUCCESSORS TO BEECHER & PECK  
**THE PECK PATENT DROP PRESS**  
DROP FORGINGS BLAST FORGES  
NEW HAVEN, CONN.

**STEEL CASTINGS**

From 1-4 to 15,000 lbs. Weight.

True to pattern, sound, solid, free from blow-holes, and of unequalled strength. Stronger and more durable than iron forgings in any position or for any service whatever. 10,000 CRANK SHAFTS and 50,000 GEAR WHEELS of this steel now running prove this. CRANK SHAFTS and GEARING specialties. STEEL CASTINGS of every description. Send for circulars and prices to

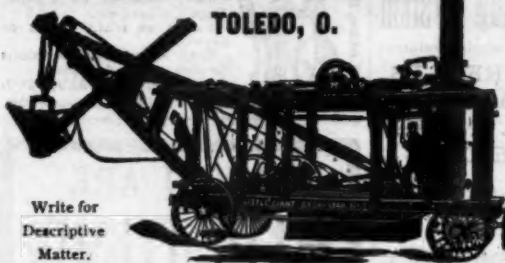
**CHESTER STEEL CASTINGS CO.**

Office, 407 Liberty St., Philadelphia.

Works, Chester, Pa.

## The Vulcan Iron Works Co.

TOLEDO, O.



Write for  
Descriptive  
Matter.

MANUFACTURERS OF  
Dredges and Excavators,  
MARINE, HOISTING and  
STATIONARY ENGINES,  
Foundry, Rolling Mill and  
Dock Cranes.  
A general line of Plain and Or-  
namental Boiler Fronts and  
Fittings and General  
Founders.  
The "Little Giant" Excavator  
WEIGHT 30 TONS.  
Capacity 1,500 cub. yds. per day  
The "GIANT" RAILROAD EXCAVATOR,  
WEIGHT 40 TONS.  
Capacity 2,000 cub. yds. per day

## UNION BRASS FOUNDRY, Lowell, Mass.

MANUFACTURERS OF ALL KINDS OF

Brass and Composition Castings, Babbitt Metals, &c.

THOS. J. DELANEY & CO.

Special attention given to the manufacture of heavy BRASS CASTINGS. Send for estimates.

GENUINE  
INGOTS & MANUFACTURES  
BEAR OUR  
REG. TRADE MARKS

Phosphor Bronze

**PHOSPHOR-BRONZE**  
INGOTS, CASTINGS & MANUFACTURES  
THE PHOSPHOR BRONZE SMELTING CO. LIMITED  
1512 ARCH ST. PHILADELPHIA PA. U.S.A.  
ORIGINAL MANUFACTURERS OF PHOSPHOR-  
BRONZE IN THE UNITED STATES AND OWNERS  
OF THE U.S. PATENTS

## CHARLES BURGESS,

MANUFACTURER OF ALL GRADES OF

## CRUCIBLE TOOL STEEL

Including SELF-HARDENING STEEL for NAILERS', LATHE and PLANER TOOLS.

Warranted Equal to any Brand Made.

Extra Quality Cast Steel for Bbars and all special tool purposes.

CYCLOPS STEEL WORKS, Titusville, Pa.

## UNION DRAWN STEEL CO.

COLD DIE, ROLLED STEEL AND IRON

## SHAFTING.

Piston Rods, Pump Rods, Guides and Shapes.

OFFICE AND WORKS, } BEAVER FALLS, PA.

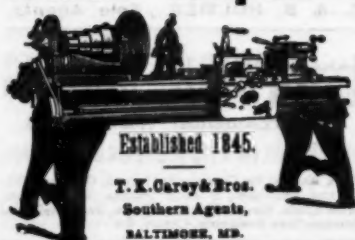
## BRADLEY AND FORGES

BEST HAMMERS IN THE WORLD RUN BY BELT  
OVER 1500 IN USE. Three Styles, 15 lb. to 500 lb. Heads.

Our FORGES heat irons fast enough to keep Hammers and Men fully employed. Send for Catalogue and Prices.

BRADLEY & CO., SYRACUSE, N. Y.  
14 WARREN ST. NEW YORK. 96 & 98 SUDBURY ST. BOSTON.

## Build & Repair Your Machinery



Established 1845.

T. K. Carey & Bros.  
Southern Agents,  
BALTIMORE, MD.

BY USING  
Engine Lathes, Planers,  
Chucking Lathes, Hand Lathes,  
—AND—  
MACHINE TOOLS GENERALLY  
MANUFACTURED BY  
LATHE & MORSETOOL CO.

Worcester, Mass., U. S. A.



BARNES' PATENT  
UPRIGHT DRILLS,

20 to 32 inch swing, with  
both worm and lever feed,  
self-feed and back-gear  
Barnes' Patent Engine  
Lathe,

15 inch swing, 6 foot or 8  
foot bed.

These machines are made  
a specialty in our factory.  
They have advantages  
not found in other ma-  
chines in this line.

It will pay parties desiring to purchase or know more about these ma-  
chines to send for full description and prices to

W. F. & JOHN BARNES' CO., 221 Ruby St., Rockford, Ill.  
THOMAS K. CAREY & BROS., 26 Light Street, Baltimore Agents.

Barnes' Water Emery Tool Grinder.  
Has no Pumps.  
No Valves.

No piping to  
supply it with water.  
It has nothing to  
get out of order; it  
is always ready for  
use.

It is as easily man-  
aged as a grind-  
stone, and will give  
vastly better re-  
sults. It will be  
sold subject to ap-  
proval.



## RIVETS

## HOOPES & TOWNSEND,

PHILADELPHIA, AND

The HOOPES & TOWNSEND CO.

WILMINGTON, DEL.

Cone, Button, Flat, Rose, Counter-Sunk, Button Counter-Sunk and Steeple Heads.

BOILER,

SHIP,

CAR,

BRIDGE,

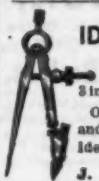
TANK,



STACK,

COOPER

## RIVETS



STEVENS PATENT

IDEAL PENCIL DIVIDERS. FIRM

Number 69.

Sent by mail, postpaid.

3 inch only.....\$1.75

Our goods excel for neatness

and fine finish, any other make.

Ideal and Leader Spring Calipers and Dividers, Ideal Surface Gauges, Depth Gauges, and

Fine Machinists' Tools. Illustrated catalogue free to all.

J. STEVENS ARMS & TOOL CO., P. O. Box 215

STEVENS PATENT

FIRM JOINT CALIPERS.

INSIDE, No. 10 C.

Price per pair, by mail, postpaid.

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

4 inch.....\$1.75 6 inch.....\$2.75

## MACHINE SHOP AND BLACKSMITH EQUIPMENTS

—A SPECIALTY—

Engine Lathes, Chucks, Drill Presses, Shaping Machines, Power Hammers, Bolt and Nut Machinery, Portable Forges, &c. Pressure Blowers and Emery Grinding Machinery. Send for Catalogue of Machine Tools, stating exactly what is required, so that prices may be quoted. Delivered your station if so desired.

W. E. DREW, Agent.

S. C. FORSAITH MACHINE CO. Machinists and General Machinery Dealers, Manchester, N. H.

## The D. E. Whiton Machine Co.

45 Oak St., New London, Conn.

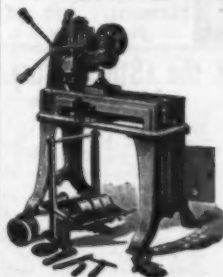
—MANUFACTURE A—

SIMPLE, CONVENIENT.

ACCURATE and

MODERATE PRICED

## Gear Cutting Machine



Which will do ALL KINDS of Gear Cutting, including Worm Bevel and Face Wheels. It is in Extended Use throughout North and South, and FULLY WARRANTED. Sent on trial to responsible parties. Send for circulars.

## IRON CLAD PAINT CO., Cleveland, O.

Factory, 75 & 77 Central Way. JAMES WADE, Sec. & Treas., 3 Case Bldg.

ORDER DIRECT FROM THE

Iron Clad Paint Co.

And get the genuine article, and save liability of suit for using an article made in violation of the patents issued to Wm. Green, and now owned by this Company.

IRON-CLAD PAINT is the most durable, most fire-proof and cheapest paint made.

FURNISHED both Dry and Ground in Oil.

USED BY NEARLY ALL THE RAILROADS.



Trade Mark Patented Paint Patented.



## PREMIER FLOUR OF AMERICA.

Patapsco Flouring Mills.

ESTABLISHED 1774.

PERFECTION IN FLOUR.

PATAPSCO SUPERLATIVE PATENT,

THE PREMIER FLOUR OF AMERICA,

IS UNSURPASSED FOR BREAD, BISCUIT OR PASTRY.

ASK YOUR GROCER FOR

PATAPSCO SUPERLATIVE PATENT, PATAPSCO FAMILY PATENT, ROLANDO CHOICE PATENT, ORANGE GROVE EXTRA.

C. A. GAMBRILL MFG. CO.

Office, 214 Commerce Street, Baltimore, Md.

**Stuebner & Woods**

MANUFACTURERS OF

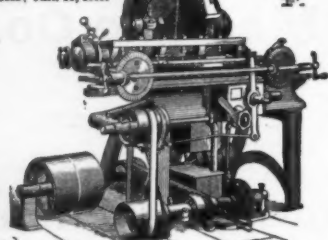
**Self-Dumping Steel & Iron  
Hoisting Tubs,**Side and Bottom Dumping  
Cars for Coal Elevators,  
Iron Wheelbarrows, Hoisting  
Blocks, Bottom-dumping Tubs  
for Coaling Locomotives, &c.

LONG ISLAND CITY, N. Y.

Send for circular and price-list.

**FINE SHOW CASES.**  
Ask for catalogue.  
TERRY MFG CO., NASHVILLE, TENN.**SPRINGFIELD EMERY WHEEL MFG. CO**  
Successors to Springfield Glass & Emery Wheel Co.

Bridgeport, Conn.

Western Branch, 15 & 20 Randolph St., Chicago, Ill.  
Patented Dec. 15, 1881  
Oct. 3, 1882, June 12,  
1883; Jan. 13, 1885.It is the only Grinder run with water to prevent heating  
and drawing the temper. Once in motion requires no at-  
tention. Will ship on its merits for 30 days' trial, and if  
not satisfactory can be held subject to our order.**ROLLER and  
Detachable Chain Belting,**Detachable in Every Link,  
FOR IMPROVED**ELEVATORS,  
CONVEYERS,**AND  
Driving Belts

FOR HANDLING

Coal, Ores, Grain,  
CLAY, BRICK, &c.

ADDRESS

**The Jeffrey Mfg. Co.**

121 W. State St., Columbus, O.

Also manufacturers of the  
Jeffrey Electric Coal Mining  
Machines, Coal Drills and  
Haulage System. Send for  
our illustrated (25c) cata-  
logue.**Stow Flexible Shaft Co., Limited,**2220 Pennsylvania Ave.  
PHILA., PA.

Manufacturers of

**FLEXIBLE SHAFTS,**  
And ALL KINDS OF MACHINES TO  
BE USED WITH THEM.Portable Drilling, Tapping, Ream-  
ing and Boring Machines. Also  
Portable Tools for Emery Wheel  
Grinding, Metal and Wood Polishing,  
Cattle Brushing and Clipping, &c.Builders of Special  
Machines

FOR

Railroads, Bridge

&amp; Boiler Makers,

Contractors, &amp;c.

**POWELL & LOCKWOOD,****General Dairy Supply House,**

112 Chambers St., New York City.

Every Requisite for Milk, Butter and  
Cheese Industries.  
Write for Catalogue.**DAIRY MACHINERY**

Complete Outfits a Specialty.

**H. McK. WILSON & CO.**

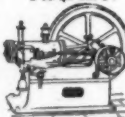
ST. LOUIS, MO.

Handsomely Illustrated Catalogue mailed  
free on application.**WHICH? BUTTER OR  
CHEESE.**If either, or both, send for  
J. S. CARTER'S Illustrated  
Catalogue, which gives full in-  
formation of latest and best method  
and appliances for making Cheese  
or Butter, from the largest fac-  
tory to the small dairy.  
Carter's Cream & Churning  
System of Butter Making is success-  
ful. JOHN S. CARTER, Syracuse, N. Y.**R. M. JOHNSON,**Manufacturers' Agent and Dealer in Corliss  
Automatic Cut-Off and Plain Slide Valve**Steam Engines and Boilers,**Saw Mills, Machinists' Tools, Wood-Working  
Machines, Mining, Brick, Ice, Grist Mill, Dairy,  
Canning and Electric-Lighting Machinery a  
Specialty; also Double Cylinder Tractor En-  
gines. Complete outfits supplied at lowest prices.  
Correspondence is solicited.**R. M. JOHNSON, Waynesboro, Va.****Carpet****A. B. COLLEN,**

P. O. Box 490, New York.

**Cleaning**Send for Price  
List and Catalogue. **Machinery.****THE CHAMBERLIN  
Screw Stump Machine.**The only Stump Machine in  
the world that successfully  
pulls all classes and sizes of  
stumps. Write for catalogue  
and price list.MANUFACTURED BY THE  
CHAMBERLIN MFG. CO.  
OLEAN, N. Y.**The Motor of the 19th Century.**

2 to 40 H. P.

Economy, Reliability,  
Simplicity, safety.Can be used ANY PLACE,  
to do ANY WORK, and by  
ANY ONE.No Boiler! No Fire! No  
Steam! No Ashes! No  
Gauges! No Engineer! No  
Danger! No Smoke!A perfectly safe motor for all  
places and purposes. Cost of  
operation about one cent an  
hour to each indicated horse-  
power. For circulars, etc.,  
address: CHARTER GAS  
ENGINE CO., P. O. Box 240, Sterling, Ill.**INDUSTRY FILE WORKS,****A. & H. GOUGH, Proprietors,**  
Manufacturers of**Files and Rasps**

Equal to the best English File.

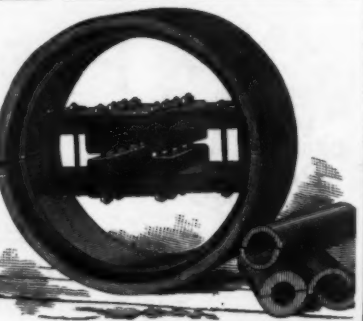
OLD FILES REOUT.

All kinds of Job Grinding.

OFFICE AND WORKS,

48 Columbus St., Cleveland, O.

C. GOUGH, Manager.



PATENTED MAY 29, 1868.

**DOUBLE STRENGTH****WOOD SPLIT PULLEY,**

MANUFACTURED BY

**Chattanooga Wood Split Pulley Co. Chatt., Tenn.****STEAM HEATING.****Barnard's Condensing System**

will accomplish the following desirable features:

**SAVES COAL, PERFECTS  
THE CIRCULATION,  
PREVENTS ALL NOISE,  
PREVENTS FREEZING,**Uses Exhaust Steam if any, without back pres-  
sure, will work at any pressure of steam, high or  
low, has no machinery needing care. Is adapted to  
Private Houses, Flats, Office Buildings, Hotels,  
Factories, &c.**GEO. A. BARNARD, 15 Cortlandt St., N. Y.****Reducing Valves**Ours are the Standard  
used by the American and  
Southern Cotton Oil Com-  
panies and over 30 Rail-  
roads.

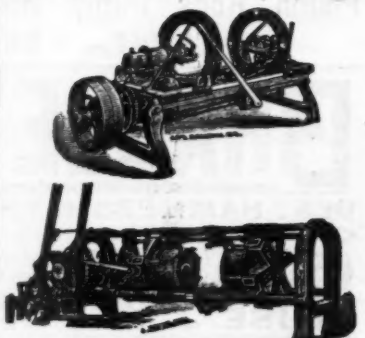
SEND FOR PRICES.

**Damper Regulators,  
Pump Governors, Etc.****Mason Regulator Co.****BOSTON.****JONES SCALES  
"THE CHEAPEST,  
THE BEST."****FOR FREE CATALOGUE**  
ADDRESS  
**JONES of BINGHAMTON, Binghamton, N. Y.****The WELLINGTON BELT HOLDER.****LATELY  
IMPROVED.**Just the thing  
to shift large  
belts driving  
Dynamoes, Blows,  
Gins, Saws,  
&c. Belt stops  
and slackens  
when machine  
stops. Thous-  
ands in use, cost  
very low. Sent  
on trial. Permit  
us to quote you  
prices.**W. R. SANTLEY & CO. Wellington, Ohio****TAPER-SLEEVE PULLEY WORKS**211 W. 12TH ST.  
ERIE, PA.Manufacturers of  
Taper-Sleeve Wood  
Belt Pulleys, Adju-  
stable Dead Pulleys,  
Friction Clutch Pul-  
leys, Friction ClutchCouplings, Wood  
Pulleys in Halves,  
Taper-Sleeve and  
Compression Cou-  
plings, Shafting, Post  
and Drop Hangers.  
Correspondence so-  
licited.**Patent-Clutch Pulley.****BERNHARD DIETZ, Manu-  
facturer of Printers' Rollers  
and Roller Composition. Factory, N. E. Cor. Grant  
and Mercer Sts., Baltimore. Prices: Composition (bulk)  
10 cents per pound; for cutting, also 10 cents per pound.  
Orders by mail promptly attended to.****SHEPARD'S New \$60 SURE-CUTTING FOOT LATHE**Foot and Power Lathes, Drill  
Presses, Screw Saw Attachments,  
Chucks, Mandrels, Twist Drills,  
Dogs, Callipers, etc.  
Lathes on trial. Lathes on  
payment.  
Send for catalogue of Outfits  
for Amateurs or Artisans.  
Address **N. L. SHEPARD, Agent,**  
134 E. 2d Street, Cincinnati, Ohio.**IF YOU ARE  
BUILDING**

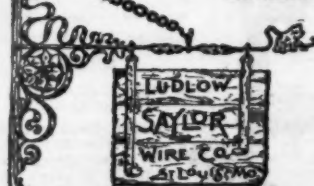
Write us for a copy of our book on

**"A TIN ROOF"  
ALSO OUR  
"FORMULAE,"**Containing full information about  
tin roofing; showing how to select,  
lay and paint, and how to specify for a  
tin roof in order to obtain best results.Either or both Pamphlets sent  
**FREE OF COST.**If your building needs ventilation,  
or you are troubled from downward  
draft in your chimney, write us for  
information relative to our**STAR ★ VENTILATOR.****MERCHANT & CO**PHILADELPHIA.  
NEW YORK.CHICAGO.  
LONDON.**E. & B. HOLMES,****BUFFALO, NEW YORK,**

MANUFACTURERS OF

**Barrel Machinery.****Chambers Patent Barrel Heater.**Capacity 300 tight or 500 slack barrels per day.  
The best Heater made.**E. & B. HOLMES, Sole Agents.****WIRE RAILING**

and Ornamental Wire Works.

**JUPUR & CO. 113 & 115 N. Howard St., Baltimore.**Wire Railing for Cemeteries, Lawns, Gardens, Of-  
fices and Balconies; Window Guards, Tree Guards,  
Wire Cloth, Sieves, Fenders, Cages, Sand and Coal  
Screens, Iron Bedsteads, Chairs, &c.**WIRE & WIRE GOODS.**Wire Cloth, Rope. **SCREENS** for  
Coal and Ores. Barbed and  
Plain Fencing Wire. Bank  
and Office Railings.

Artistic Work a Specialty.

Send for catalogue and mention this paper.

# Read What a Michigan Miller Says of the Case Company.



STURGIS ROLLER MILLS,  
BAUER & BUHRER, Proprietors.

STURGIS, MICH., July 12, 1890.

The Case Manufacturing Co., Columbus, Ohio:

GENTS—We started mill July 7th. The 12 pair 9x18 rolls you furnished us worked perfectly. They are so easy to adjust, so simple to handle, feed so regularly, grind so nicely and even, and work so smoothly on the whole, that we have no hesitancy in stating that we cannot see how they can have a superior, if equal. Aside from their perfect work, they are models of beauty and finish, and a decided ornament to any mill. We enclose clippings from papers. We are, with best wishes,

Very truly yours,

BAUER & BUHRER.

For full particulars regarding the best FLOUR OR CORN MILL MACHINERY, address



## THE CASE MANUFACTURING CO., Columbus, Ohio.

### THE MISSISSIPPI RIVER.

#### Early Efforts for National Recognition Culminating in the Building of the Eads Jet-les.

[Written for the MANUFACTURERS' RECORD.]

"In considering the Mississippi river we must regard it as a river of sand as well as of water." In the foregoing sentence, Hon. Randall Lee Gibson, United States Senator from Louisiana, pithily stated the problem which it has been the endeavor of civil and military engineers to solve for three-quarters of a century. This problem presents phenomena seemingly discordant and irreconcilable, and yet known to be controlled by and obedient to fixed laws. To obtain accurate knowledge of these laws was the first essential step toward the perfection of a plan that should overcome all difficulties and keep this mighty stream under human control.

The first official action by the general government in this direction was taken in 1822, when two engineer officers of the army, General S. Bernard and J. G. Totten, after a careful study of the river, made an elaborate report (Dec. 22d, 1822) in which they set forth the result of their investigations and declared: "The only means which appear practicable to us is the construction of dikes. They operate by diminishing the current above them, thus economizing the expanse of water, at the same time constraining the current to rush with greater velocity through the narrow space to be deepened."

In the same report they described the effects of the floods they had witnessed, saying: "While the waters of this river are over its banks, the operation of the current being in proportion to its elevation and consequent increase of velocity, the changes which are produced in the bed of the river are great, sudden and numerous. Then are produced those multiplied turns and elbows which so strikingly characterize this great river, and which increase its channel to the double of what it would have been if the banks could have resisted its current. The corresponding concave parts of these turns are sometimes separated only by a very narrow neck, which being cut through by the waters, as often happens, present a new and navigable channel of perhaps a half mile in length in lieu of the old one of 15 or 20 miles. The abandoned channel is entirely divided from the river except in floods, and on the west side, especially, becomes a lake."

The floods of the Mississippi are one of the phenomena to be understood that they may be regulated. The other is the low water periods. "At certain seasons of the year," said Senator Gibson in one of his instructive speeches, "the water subsides, the channel is blocked by snags and sandbars, and for a great distance there is only from four to eight and a-half feet depth. This condition continues not for a few days or a few weeks, but for several months

during every year, interrupting trade and commerce, and making its navigation difficult and perilous; the largest and costliest boats, in which great sums are invested, and that give employment to thousands of people, are compelled to lie idle; the navigation of the river is almost as effectually closed as if artificial dams were built across its bed."

While the report made in 1822 by army engineers awakened much interest in the improvement in the Mississippi and was probably the primary movement which ultimately led to the large grant of public lands made in 1840, yet there was not at that time any popular comprehension of the importance of the work needed or of the vast national interests that would be served if it were undertaken and accomplished. In 1845 two distinguished Congressmen, James Gadsden and James Guthrie, acting as a sub-committee, made as thorough an examination of the subject as was possible and prepared a report upon the navigation of the Mississippi, which was approved by Hon. John C. Calhoun, who submitted it to Congress. In that report the situation was carefully stated, and it was said:

"The expenditures on the Mississippi thus far, if reports are to be credited, have produced no results corresponding to the vast sums appropriated. When the channel has been straightened at one point it has been lengthened at another, and obstructions or deposits in one bend have only been transferred in their removal to another. 'Sawyers' and 'planters' have in one season been reduced in number to be replaced by the succeeding one."

The only fact clearly established, and it is one to which attention should be particularly directed as bearing with peculiar influence on the proposition submitted, is that where the banks of the Mississippi have been leveed and prevented from inundating the swamps the spring rises are scarcely perceptible, and the surplus waters are discharged by deepening the bed; its currents no longer able to rise and expand over a wider surface, they have to deepen the bed to furnish vent for the waters to be discharged. The reclaiming, therefore, the swamps and confining the river to its bed will deepen it, and do more to preserve unimpaired the navigation of the Mississippi than all the projects which have hitherto been devised or acted on for its improvement. The suggestion, however, is worthy of examination, and it is the stronger recommended as it may accomplish a great object at comparatively little cost. The swamps of the Mississippi, now worthless, and made so by the inundations of that river, may be made, by their own reclamation, the instruments of improving the navigation of that stream."

In this declaration is shown the fact that although the work of the preceding years had been so disconnected that what was done at one point had destroyed the work at some other, still the theory ad-

vanced by Engineers Bernard and Totten seems to have been proved correct.

At great cost the country was gradually acquiring knowledge as to how to deal with this "river of sand as well as of water." It was also slowly, very slowly indeed, beginning to learn that the great waterway that extended from Canada to the Gulf was a national stream, beyond the power of the interior States to improve and to control. In his last speech in Congress Henry Clay, the greatest of the distinguished galaxy of statesmen that adorned that era, referred to this public ignorance, or narrowness of view, with a pathos all the more impressive, because of his broad national ideas and his prolonged and eminent services to his country. The bill making appropriations for river and harbor improvements being before the Senate, Mr. Clay, after some preliminary remarks, said:

"An honorable Senator has gotten up and told us that here is an appropriation of \$2,300,000. With regard to the appropriations made for that portion of the country from which I come, the great valley of the Mississippi, I will say that we are a persevering people, a feeling people and a contrasting people; and how long will it be before the people of this vast valley will rise en masse and tumble down your little hair-splitting distinctions about what is national, and demand what is just and fair on the part of this government in relation to their great interests? The Mississippi, with all its tributaries, constitute a part of a great system, and if the system be not national I should like to know one that is national. We are told that a little work, great in its value, one for which I shall vote with great pleasure—the breakwater in the little State of Delaware—is a great national work, while a work which has for its object the improvement of that vast system of rivers which constitute the valley of the Mississippi, which is to save millions and millions of property and many human lives, is not a work to be done because not national!"

Around the region of the coast of the Atlantic, the Mexican Gulf and the Pacific coast everywhere we pour out in boundless and unmeasured streams the treasure of the United States, but none to the interior of the West, the valley of the Mississippi. Every cent is contested and denied for that object.

Sir, I call upon the Northwestern Senators, upon Western Senators, upon Eastern Senators, upon Senators from all quarters of the Union, to recollect that we are part of our common country."

Had the facilities for the transmission of congressional proceedings been then what they are now, this address would have appeared in full in every morning paper in the land, and this appeal would have been responded to by the devoted friends of Henry Clay in every State. But it was heard only by his audience in the Senate chamber, and was then buried in the pages of the Congressional Record. It had its effect, however, upon pending legislation, for an appropriation for work on the Mississippi was made.

In 1850 Colonel Humphrey and Captain Abbot, of the United States engineers, were detailed to make a complete survey

of the Mississippi. They spent ten years in the work. Their report has been pronounced "a monument of industry and learning." It convinced many, in and out of Congress, that some continuous system ought to be adopted for insuring the commerce of the river against the losses consequent upon floods and low water periods. The general opinion seems to have been that more levees should be built, and that those already constructed should be strengthened where necessary. Special committees were created by Congress, who agreed upon a bill for constructing levees, which passed one house only to be lost in the other. Meanwhile, the people of the Mississippi delta were steadily taxing themselves to maintain the existing barriers, which were essential to their protection. Then came the war, with its attendant devastation. During its continuance the levees were neglected, and many were either in part or wholly destroyed. Soon after peace was declared, in 1865, Secretary Stanton ordered the levees to be rebuilt, believing, says Senator Gibson, that it was an "act of humanity to restore these public works essential to the good order of society, and now needed more than ever by a people struggling with poverty amid social and political conditions involving a disruption of traditions and customs and established relations, but it was not done."

In 1874 a commission was again appointed to determine what ought to be done. President Grant was strongly in favor of its recommendations to reconstruct the levees, but even his influence was not sufficiently powerful to produce favorable action in Congress.

Meanwhile a new interest in the condition and needs of the lower Mississippi valley had been created that was to have a most potential influence upon its future. Population had followed the lines of the trans-continental railroads and their feeders until great States had been carved out of the country on both sides of the Rocky mountains; prosperous cities had sprung into existence; vast areas of wilderness had been brought under cultivation, and for their immense crops of wheat and corn there was no adequate transportation. From all these fertile farms and prosperous cities came a demand for the improvement of the Mississippi. The plan of a voluntary association was suggested. St. Louis took the lead in this matter, and soon a powerful organization was effected, numbering in its membership many influential citizens of every State from Minnesota to Louisiana, and conventions were held, statistics were compiled, public spirit was aroused, and the public opinion of the entire region from Canada to the Gulf was brought to bear upon Congress. The first tangible result of this spontaneous uprising was the organization in the House of Representatives of the forty-fourth Congress of a permanent committee on levees, the first of the kind that had ever been created. This committee framed a bill for the rebuilding of the levees and for the protection of the entire alluvial region from floods, but although it was earnestly and ably advocated it failed to get a third of the votes of the House. The great West was determined that something should be done. At least the mouth of the Mississippi should be made an open gateway to the sea. Capt. James B. Eads, an eminent civil engineer of St. Louis, devised a plan for the accomplishment of this work, which was pressed upon and carried through Congress. The task was entrusted to the man whose genius had devised the plan, and he carried it through to a triumphant success. At last the nation recognized in some measure the importance of the Mississippi river as a high-way of commerce.

## The Markets.

OFFICE MANUFACTURERS' RECORD,  
BALTIMORE, August 6, 1890.

The iron trade throughout the country is in a rather more satisfactory condition than last week. There is a steady demand at all points. Buyers are not providing themselves as liberally as they might, but offers are being made and the inquiries indicate that consumers are inclined to buy largely at an early date. The immense production, however, acts as a check upon those who would otherwise provide for the requirements of the coming three or four months. Advices from all iron-making centers show that mills are making full time, and that orders are sufficient to absorb the entire production. At New York Bessemer pig is offered at \$19; Southern No. 1 foundry at \$17; No. 2 at \$16, with 25 to 50 cents more for a few special brands. Northern makes are quoted at \$17 to \$18 for No. 1; \$16.50 for No. 2, and \$15.25 for several brands of gray forge. There is a scarcity of wire rods. Steel rails are selling freely at \$31 to \$31.50 at Pennsylvania mills. Large sales of billets have been recently reported. There is an active demand for copper, tin plate, spelter and pig lead. The demand for copper is particularly active, and has resulted in an advance and a rather speculative inquiry.

At Philadelphia prices are reported stronger than two weeks ago, and demand somewhat improved. Mills are running full, and orders accumulating. Prices are not likely to advance in any branch, but large consumers think it advisable to provide for 60 to 90 days' requirements. There is a heavy demand for rails and billets. Pipe mills are crowded with work. Makers of plate and structural iron are well sold up at full prices. Sheet mills are doing an excellent business.

At Ohio iron centers a great deal of new business has recently come to hand. A heavy business is being done in ores at Cleveland, shipments up to date being about three-quarters of a million tons in excess of same time last year. Throughout the Ohio valley reports are favorable. At Louisville Southern No. 1 coke foundry is quoted at \$15; No. 2, \$14.50; gray forge, \$13.50. Advices from Chicago show that a genuine activity has set in in the iron trade there; the demand for railway material and supplies is particularly active. Farmers' requirements constitute an important element in the present demand; in addition to this, a great deal of machinery is under contract; manufacturing establishments of all kinds are being built, and the equipments of old ones renewed. The reports from the Northwest are favorable, notwithstanding complaints of agricultural depression.

Throughout the South prices of both crude and finished iron have been well maintained. A number of new furnaces will soon be in blast. Some authorities predict an advance of \$1 per ton on Southern iron within 90 days. There is a great deal of material wanted for car construction. The railroad companies generally are placing orders for cars, and the car builders are most of them sold from three to six months ahead. The locomotive builders are also well supplied with work, and nearly all of them are enlarging capacity. Railroad requirements will be particularly heavy during the remainder of the year; it is evidently the policy of all railroad companies to put their properties in the best possible condition. New enterprises are very numerous, and the demand from this source will increase the demand for iron and steel products.

As a rule, the nail factories are running full time. The sheet mills have as much work as they want to take care of. The demand for wrought iron pipe and tubes is particularly urgent. The construction of

pipe lines is being vigorously pushed; three or four lines of great length are projected—one of them to Chicago, one to New York, and some shorter ones, from 60 to 80 miles in length. The iron trade generally is in a satisfactory condition, and inducements and temptations are presenting themselves to manufacturers to enlarge their works and invest in new enterprises.

### HARDWARE.

There have been no changes in values during the past week, the market being characterized by a firm feeling, which, from the present outlook, seems likely to continue. The volume of business, while not perceptibly increasing, is fairly large, and both manufacturers and jobbers express themselves as fairly well satisfied with the existing state of business. The fall trade will be fully up to the past average in most sections of the country, especially in the South and Southwest, where crop prospects are unusually favorable, and a few more weeks of seasonable weather will assure large results.

### AMERICAN

## Pig Iron Storage Warrant Co.

(Bank of America Building.)

44 Wall Street, NEW YORK.  
Correspondence of Furnaces Invited.

### NASHVILLE RAPID TANNING AND

## BELT MANUFACTURING CO.

Manufacturers of Oak Tanned and Rawhide Leather Belting, Lace Leather, Pickler Leather, Ropes, Lariats and other Rawhide Leather Goods.  
NASHVILLE, TENN.

## BELTING

Southern Agents—Hoyt's Pure Oak-Tanned Leather Belting, The New York Belting & Packing Co., The Gandy Belting Co. and Excelsior Raw Hide Lace Leather. The largest stock south of New York, assuring prompt shipments. Write for prices.

**BAKER, SLOO & CO.**  
NEW ORLEANS, LA.

### SLIPPING and SWEARING

PREVENTED BY USING  
**DIXON'S BELT DRESSING**  
And Leather Preservative.

Absolutely prevents slipping, thoroughly preserves the leather. Not a new and untried article. It will pay you to send for circular and testimonials.

Jos. Dixon Crucible Co., Jersey City, N. J.

**PICKANDS, MATHER & CO.**  
Pig Iron, Iron Ore and Coal.

Perry-Payne Building,  
CLEVELAND, OHIO.

For one dollar, currency or stamps, we will send to any part of the United States, express charges paid, our perfect Grease Cup. It is a slight feed, and forces all the grease out of the cup without being touched. We send sufficient grease for trial. The cup is well finished, and is an ornament anywhere. One cup of grease will do the work of six cups of oil. For loose pulleys, crank pins, etc., it has no equal. **CHEMIST MFG. CO., Cleveland, Ohio.**

## EDWARD ALLEN, Practical Lead Burner

BALTIMORE, MD.

Sulphuric Acid Chambers constructed on the latest improved plan. Strict attention given to the Lead Work of Concentrating Apparatus.  
P. O. BOX 214. ESTIMATES FOR THE ABOVE GIVEN.

Hardware and Gun Trade: Quote our

## \$5 Clay Pigeon Trap.

Electrotype furnished gratis for catalogue. Liberal commissions. 32-page book free. Address  
**LIGOWSKY CLAY PIGEON CO. BIRMINGHAM, ALA.**

## McShane & Bell Foundry

Fine Iron and Brass Castings Made to Order. Manufacture those celebrated Bells for Tower Clocks, Court-Houses, Cotton Mills, Factories, &c. Prices and catalogues sent free. Address  
**H. McSHANE & CO.**  
Baltimore, Md.  
Mark this Page.

## Philadelphia Warehouse Company,

No. 235 Dock Street, Philadelphia.

**CAPITAL, \$1,000,000, FULL PAID.**

This Company makes advances upon Pig Iron stored at Furnaces (storage charge being nominal) or in Public Warehouses, upon reasonable terms. Particulars upon Application.

F. M. POTTS,  
Sec. and Treas.

R. H. FILE,  
Superintendent.

BEAUVEAU BORIE,  
Vice-President.

HARRY F. WEST,  
President.



**The "Original Gandy"**  
Sawed Cotton Duck Belting.  
Especially adapted for Main Drivers, Saw Mills, Cotton Gins, Cotton Presses, and for all places where belts are subjected to moisture or atmospheric changes, the "GANDY" stands paramount.  
For further information, price, etc., write  
**The Gandy Belting Co.**  
BALTIMORE, MD.  
SOUTHERN AGENTS: Smith & Courtney, Richmond, Va.; Atlanta Rubber Co., Atlanta, Ga.; Baker, Sloo & Co., New Orleans, La.

**THE BEST & CHEAPEST**  
**BELTING**  
**IN THE WORLD**  
STITCHED CANVAS BELTING  
THE CHESAPEAKE BELTING CO.  
BALTIMORE, MD.

## PAGE BELTING COMPANY.

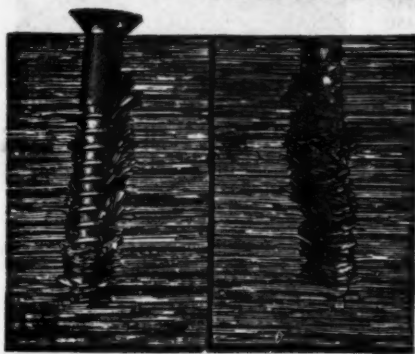
SECTION OF COPPER WIRE-SEWED LIGHT DOUBLE BELTING.  
We Manufacture all the staple and special grades of Leather Belting, including Acme Link and Eureka Dynamo, and the PATNA BRAND Lacing, mechanically made; is a buffed the good qualities of ordinary Page's Patent. Try it. No. 21, describing the "Kinds and for Different Kinds of Work."  
CONCORD, N. H., U. S. A.  
BRANCHES—Boston, New York, Chicago, St. Louis and San Francisco.

**STOUT BELTING CO.**  
MANUFACTURERS OF  
IT BELTS THE EARTH AND MAKES THE MOON SPIN LIKE A TOP.  
OUR BELTING IS TANNED ON THE SURFACES ONLY. INTERIOR IS RAWHIDE. The only Perfect Belt made. No slipping or lost motion.  
FOR OUR VALUABLE BOOK, FREE.  
ST. LOUIS, MO.  
—AGENTS IN ALL CITIES—

# AMERICAN SCREW CO., PROVIDENCE, R. I.

## "ROGERS' DRIVE SCREWS."

Patented May 18, 1887; July 19, 1887;  
July 18, 1888. Other patents pending.



A common cut thread screw as ordinarily inserted—i. e., driven two-thirds of its length with a hammer and the balance with a screw driver. Fibres of the wood are necessarily broken, and the holding power of the screw much impaired.



The "Rogers' Drive Screw" driven with a hammer its entire length. It revolves as it goes in and does not break the fibres of the wood, but makes its own nut of the cavity it forms.

WIER & WILSON, Agents, Baltimore, Md.

The foregoing illustrations speak for themselves, but we call attention to a few advantages of the "ROGERS' DRIVE SCREWS."

1. Stiffness, adapted for driving with a hammer.
2. Rapidity of insertion.
3. Increased holding surface.
4. Ability to be driven with hammer and withdrawn with screw driver numerous times from same hole.
5. Superior head, which will withstand blows of a hammer and not impair the slot.
6. Improved slot, admitting the use of a heavier screw driver.
7. A Rogers' Drive Screw of small diameter will hold as much as a common screw of a larger diameter.

Discount 66 2/3 per cent. from list of common screws.

### VAILE & YOUNG'S Patent Metallic Skylights.



308 & 311 NORTH STREET, BALTIMORE, MD.

Without Putty. Construction adapted to all forms and styles of Skylights. Thousands of feet in use have proved its superiority. Particularly adapted for Depots, Mills, Factories, etc., where large and continuous lights are required. Send for illustrated catalogue.

### METAL SKYLIGHTS

Made of galvanized iron and copper. Absolutely no leakage from any source; no dripping or sweating, fire-proof; ventilating. Galvanized iron and copper cornices and gutters. Sheet metal work for buildings. Send for illustrated circular.

E. VAN NOORDEN & CO.,  
383 Harrison Ave. BOSTON, Mass.



W. J. BURTON & CO., Detroit, Mich.



ARE the STANDARD PAINTS for STRUCTURAL PURPOSES, and are composed of pure linseed oil and the highest grade of pigments. They are prepared ready for use, in newest shades and standard colors, and, on account of their purity and great covering properties, they are the most DURABLE and ECONOMICAL Paints ever produced. One gallon will cover from 250 to 275 square feet, two coats.

Samples and Descriptive Price List free by mail.  
H. W. JOHNS MANUFACTURING COMPANY.

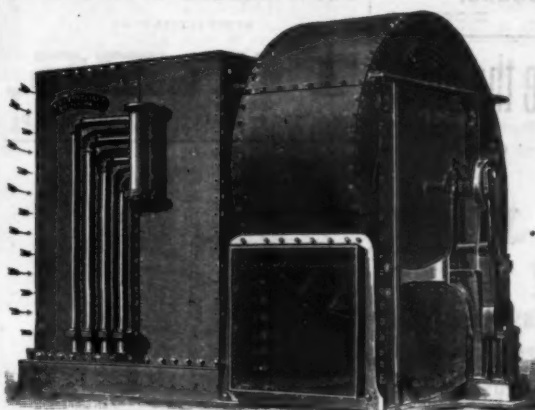
SOLE MANUFACTURERS OF  
H. W. Johns' Asbestos Roofing,  
Fire-Proof Paints, Building Felt,  
Steam Pipe and Boiler Coverings,  
Asbestos Steam Packings, Gaskets, etc.,  
Vulcanized Moulded Rings, Washers, etc.  
87 MAIDEN LANE, NEW YORK.

## The Sturtevant Steam Hot Blast Apparatus

—FOR—

## Heating AND Ventilating

Public and Office Buildings, Stores and Manufacturing Establishments of all classes, and for drying Wood, Wool, Cotton, Tobacco, Glue, Grain, &c. Send for illustrated treatise on Ventilation and Heating.



B. F. STURTEVANT,

BRANCHES—91 Liberty Street, New York, 31 N. Canal Street, Chicago.

W. R. Burgess, agent, Greensboro, N. C.

## RICHMOND CITY MILL WORKS,

RICHMOND, INDIANA,

— MANUFACTURERS OF —

## FLOUR MILL MACHINERY

IN ALL ITS BRANCHES

A Majority of the Best Flour Mills in the South Equipped by this Company.

CORRESPONDENCE SOLICITED.

**BUY Cheapest FROM STEEL WRITE**  
RAILINGS, GATES, POSTS, CRISTINGS,  
JAILS, ROOFS, STAIRS, Lintels, Sills, &c.  
Cast Columns, Saw Mills, Improvements.  
MANLY MFG. CO. DALTON, Georgia.

### The Plumbers' Favorite



Haines, Jones & Cadbury Co.'s  
IMPROVED  
Blast Furnace.

Will melt ten pounds of solder in six minutes.

Haines, Jones & Cadbury Co.

1136 Ridge Ave

PHILADELPHIA, PA.

### Hoisting Engines

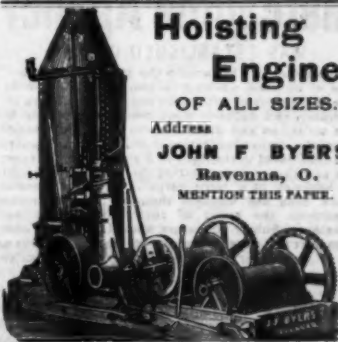
OF ALL SIZES.

Address

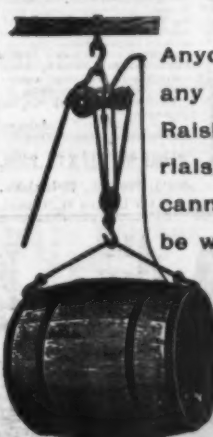
JOHN F. BYERS,

Havenna, O.

MENTION THIS PAPER.



### The Spragg Automatic BRAKE HOIST



Anyone that has any Hoisting or Raising of Materials of any kind cannot afford to be without it.

Send for  
Illustrated Circular

Sole Philadelphia Agents:

PALMER, CUNNINGHAM & CO.

LIMITED.

607 Market Street, PHILADELPHIA.

### NO RUBBER REPAIRS.

Belden Improved Upright



POWER HAMMER.

The Belden Machine Co.

NEW HAVEN, CONN.

Send for Circulars.

## JUST PUBLISHED. THE METALLURGY OF STEEL

By H. M. HOWE.

Royal Quarto, 380 pages, handsomely bound in cloth, gilt, copiously illustrated.

Price \$10.

"The greatest work ever written on the subject."

Absolutely Indispensable to Everyone Engaged in the Making and Using of Iron and Steel.

PUBLISHED BY THE

SCIENTIFIC PUBLISHING COMPANY,

27 Park Place, New York.

## TALBOT'S PATENT PORTABLE CAR FLOOR.

This floor is necessary for the safe transportation of stock. It is extensively used in the West and I desire to arrange for its manufacture and introduction in the South. Who will offer best inducements to manufacture it on royalty or to organize a company?

**D. H. TALBOT,**

SIoux CITY, IOWA.

## FRUIT EVAPORATORS.

Particulars Free. Six Sizes.

Adapted for Factory Plants, Farmers, Grocers, Fruit Dealers, Storekeepers, &c.

EVERY DETAIL FURNISHED.  
STATE CAPACITY WANTED.

The Prices Range from  
\$25, \$50, \$75, \$175, \$350 to \$1,000  
and upwards.

Order early. If any delays occur it will be in our busy season. There is money in the use of an evaporator. Address

**AMERICAN MFG. CO.**

Waynesboro, Pa., Box E.

The Improved ANTI-SPLITTING  
EMPIRE 8ASH PULLEY  
FOUND AT LAST.

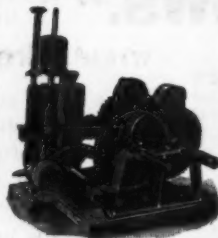


THE BEST AND THE CHEAPEST  
Great Saving of Time and Material.

MANUFACTURED BY  
EMPIRE PORTABLE FORGE CO.  
LANINGBURGH, N. Y.

Manufacturers of the largest and best line of Portable  
Forges and Hand Blowers. For sale everywhere.

## WANTED.



A live BUSINESS MAN, who can bring the best of references, with some capital, to associate himself with present owner to increase the sale of the well-known

Gilliespie Rotary  
HYDRAULIC  
GOVERNOR

now in use in hundreds of mills and factories all over this country. No machinery can be run with economy on a varying speed. Or produce its most profitable results without being run at its highest rate of speed consistent with its durability and the production of a perfect fabric. The unnecessary wear and breakage of machinery, and the consequent stoppage and cost of repairs, are large items in the expense of running a mill, a great part of which is the result of varying speed. The increase in quantity and improved quality of the products of any mill running at its maximum and even speed, is a considerable profit beyond what can be produced by the same mill running with varying speed. The above machine is adapted to any power, and an unlimited guaranty is given that it will so control the power as to give the above-mentioned results, and maintain a perfection of speed under all possible changes of labor.

Any capable, reliable man, with small capital, wishing business and meaning business, may address

**JOHN S. ROGERS,**

380 Atlantic Avenue, BOSTON.

## We don't make the best?



GASOLINE PAINT BURNERS, GASOLINE and  
OIL TORCHES and GASOLINE PLUMB-  
ERS' and TINNERS' FURNACES.

Our Gasoline Paint Burner has an adjustable burner.

Our Gasoline and Oil Torches produce the best and cheapest light for in and out-doors.

They are particularly desirable for camps, camp meetings, fairs, docks, fishing grounds, fruit stands, mills, factories, foundries, etc.

For plumbers' and tinner's in and out-door use our Gasoline Furnaces are the best.

## No one makes any better.

Send to us for Catalogue and Prices.

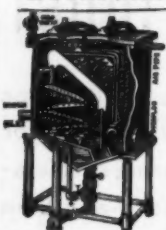
THE

**SCHNEIDER & TRENKAMP CO.**

CLEVELAND, OHIO.

## WEBSTER'S

"VACUUM" EXHAUST STEAM ECONOMIZER  
Is a Feed Water Heater and Purifier.



And is the most perfect device known for heating and purifying the feed water for steam boilers, preventing scale, and for heating buildings of any description, without rack pressure on engines, returning condensation to the boiler in the one apparatus. Readily cleaned without stopping machinery. All parts accessible. Furnished on Trial for Acceptance.

New Illustrated Catalogue of convincing proof, free.

WARREN WEBSTER & CO., Props.

401 N. Third St., Philadelphia.

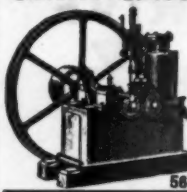
71 Courtland St., New York. 159 La Salle St., Chicago.



BRIGHTON, MASS., Feb. 21, 1890.  
GENTLEMEN: I have your EX-  
HAUST STEAM ECONOMIZER. I have  
the best satisfaction, demonstrating the  
fact that one can be perfectly used for  
two purposes—smoke and ventilation.  
Yours, SAML. DAVENPORT.  
Architect and Builder.

For particulars send to  
CHENEY & HEWLETT, 207 Broadway,  
New York.

## VAN DUZEN GAS & GASOLINE ENGINE



OPERATED with COAL  
and OTHER MANU-  
FACTURED GASES AND  
GASOLINE.

RELIABLE AND  
ECONOMICAL.  
Fully Warranted

VAN DUZEN  
Gas & Gasoline Engine Co.  
56 E. 2d St., Cincinnati, O.



The Standard Steel Works

MANUFACTURERS OF

## TIRES.

Office, 220 S. Fourth St., PHILADELPHIA, PA.



"IMPROVEMENT OF THE AGE"

For 15 years all users of typewriters have felt the necessity of their being improved. You will find in the SMITH PREMIER TYPEWRITER the latest and best. All the essential features greatly perfected and important improvements. The best inventive talent and mechanical skill have been employed to produce a machine of G enter Durability, Excellence of Design and Special Features. We claim, and inspection and trial prove it, the Most Durable in Alignment, Easiest Running and Most Silent. All type cleaned in 10 seconds without soiling hands. Send for catalogue. THE SMITH PREMIER TYP-  
WRITER CO., Syracuse, N. Y., U. S. A.



THE  
"Auburn" Watchman's Clock.

The best in the market, and the only one combining a system of fire and superintendent's alarm. The most complete safeguard ever invented. No factory can afford to be without it.

SEND FOR CIRCULARS TO

**BUNDY MANUFACTURING CO.**

BINGHAMTON, N. Y.

## THE BRADSTREET Mercantile Agency

WAS ESTABLISHED IN 1849.

Is the oldest and financially the strongest organization of its kind, working in one interest and under one management, with more capital invested in the business, and expends more money every year for the collection and dissemination of its information than any similar institution in the world. Its reports are considered in the light of a guide by both investors and those contemplating the granting of credit. In addition to a large corps of skilled employees, more than one hundred thousand correspondents contribute the result of their investigation and opinions. Subscriptions are annual, and may commence at any time the subscriber elects. Details as to prices and terms will be furnished upon application.

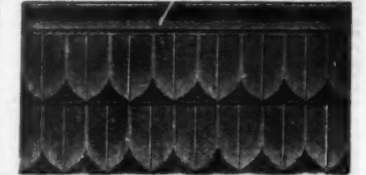
CHARLES F. CLARK, President.

Baltimore Office—American Building  
N. KERSHAW, Sup't.

## CORTRIGHT



METAL ROOFING, TILES & SLATES



Storm-Proof, Fire-Proof, Durable, Handsome  
Illustrated Catalogue Free.  
CORTRIGHT METAL ROOFING CO., Phila.  
Western Office, 709 Delaware St., Kansas City, Mo.

## THE ACME

ARCHED STEEL

EAVE TROUGH HANGER.

PATENT PENDING

GUARANTEED  
THE STRONGEST AND BEST  
IN THE  
MARKET.



THE STANDARD  
Eave Trough Hanger

PATENTED

MADE OF BEST GALVANIZED  
STEEL WIRE.

CHEAP, STRONG,  
AND  
DURABLE.

For Price List, address

**THE CANTON STEEL ROOFING CO.**  
CANTON, OHIO.

SOLE OWNERS AND MANUFACTURERS.

## MENGEL'S

PRINTING-  
PRESSES,

PRINTERS'  
MATERIALS.



PAPER-  
CUTTERS,

PRINTING  
INKS, &c.

LARGEST TYPE AND ELECTROTYPE FOUNDRY AND PRINT-  
ING SUPPLY HOUSE SOUTH OF PHILADELPHIA.

Our Type is now used by The Baltimore Sun, Washington Post,  
Critic, Herald, Public Opinion, and nearly all the leading Newspaper  
and Book Offices in this vicinity. Send for estimates.

**JOHN G. MENGEL & CO.**

No. 111 E. GERMAN ST., BALTIMORE, MD.

ATLANTIC TRANSPORT LINE,  
BETWEEN BALTIMORE AND LONDON  
Sailing at Swansea and Philadelphia on the outward  
passage.

S. Minnesota, 5,000 tons. S.S. Missouri, 4,000 tons.  
S. Maryland, 4,000 tons. S.S. Michigan, (Bldg.)  
S. Montana, 4,000 tons. S.S. Mississippi, (Bldg.)  
S. Maine, 4,150 tons.

ALTIMORE STORAGE & LIGHTERAGE CO.

136 La Salle Street, } and } 12 Peachurch Street,  
Chicago, Ill. }  
409 Second Street, Baltimore, Md.

## THE BAY LINE

Fortress Monroe, Norfolk and the South.

The Bay Line comprises the New and Elegant Steamers  
"VIRGINIA," "CAROLINA" and "FLORIDA."

All the Comforts and Luxuries of a First-Class Hotel are  
afforded the traveler. Spacious and elegant saloons and  
and State-rooms, furnished with an especial view to com-  
fort. Unsurpassed Cuisine, which is made a specialty  
with this Line. Elegant service and courteous attention.  
Steamers leave Baltimore daily (except Sundays) at 9 P. M.  
At Old Point Comfort is located the BLENDED  
HYGIEA HOTEL, a Delightful Resort at all Seasons of  
the Year. For Tickets and information apply at  
Company's office.

157 W. BALTIMORE STREET, BALTIMORE.

Or on Board of Steamers.

D. J. HILL, Superintendent.

E. BROWN, General Ticket Agent.



## When Can You Ship?

Is a question that turns up frequently in the course of our extensive daily correspondence. The answer, with a few exceptional cases, is—IMMEDIATELY.

**The Cincinnati Corrugating Co.**

MANUFACTURERS  
Superior Iron & Steel Roofing, &c.  
Box 226, PIQUA, O.

**HOLTON IRON ROOFING**  
ROOFING SIDING CEILING & C.  
NEW LISBON, O.  
AGENTS WANTED EVERYWHERE

**CRIMPED SYKES' IMPROVED**  
Best Roof in the World. Suitable for all classes of buildings. Easy put on.  
**SYKES' PATENT**  
All my Iron and Steel is re-rolled and box annealed, well painted on both sides with the Best of Paint and Pure Linseed Oil.  
**SYKES IRON ROOFING CO., NILES, OHIO.**  
Send for Circular and Price List, and mention this paper.

**The Kanneberg Roofing Co., Canton, O.**  
(The Originators of Strictly Genuine Steel Roofing.) MANUFACTURERS OF  
The KANNEBERG PATENT, Latest Improved Folded Lock Seam, Strictly Genuine Steel Roofing.  
Write for Catalogue, Price List and Samples.

**THE BERGER MANUFACTURING COMPANY, CANTON, O.**  
BERGERS LOCK SEAM STEEL ROOFING  
SEND FOR ILLUSTRATED CATALOGUE, SAMPLES & PRICES.  
**DON'T** make arrangements for ROOFING 'till you have seen ours.  
It Exceeds all other Metal Roofs.

**METAL ROOFING, SIDING AND CEILING.**  
FIRE-PROOF SHUTTERS AND DOORS.  
**SHEET IRON AND SHEET STEEL,**  
Corrugated, Black, Painted & Galvanized.  
Don't buy without sending for our Prices and Catalogue.  
**WHEELING CORRUGATING CO., Wheeling, W. Va.**

**FRANK RHONER & CO.**  
MANUFACTURERS OF  
**Parlor and Hall Furniture**  
Call and see Our Stylish Goods at Popular Prices.  
Call and see Our Goods in Gilt and Old Silver.  
WAREHOUSE: 437 E. 22d ST., NEW YORK, bet. Ave. A and First Ave.

**LUDLOW VALVE MFG. CO.**  
Office and Works: 938 to 954 River St., and 67 to 83 Wall Ave., Troy, N. Y.  
**VALVES**  
Double and Single Gate, 1/2 inch to 48 inch; outside and inside Seams, Indicators, etc., for Gas, Water, Steam, Oil.  
SEND FOR CIRCULAR.  
Also Fire Hydrants, Yard and Wash Hydrants, Check and Foot Valves.

## FIRE-PROOF WATER-PROOF WIND-PROOF GUTTA PERCHA ROOFING!

The Great Roofing for the South. Send for Southern Manufacturers' References. For Steep or Flat Roofs, Factories, Mills, Lumber Sheds, etc. Send for Catalogue, Testimonials, Samples, etc.

**Empire Paint & Roofing Co.,** 111 N. FOURTH STREET, Philadelphia, Pa.

## CORRUGATED IRON The CAMBRIDGE ROOFING CO.

AND ALL STYLES  
IRON AND STEEL ROOFING  
Siding & Ceiling. New York Office, 35 Broadway. CAMBRIDGE, O.  
Manufacturers of Crowl's Patent Steel

## "QUICK-LAID" STEEL ROOFING.

Does away with labor required by others; Makes Roofing Profitable; has no exposed nails, rivets or cleats; is packed in patent packages, which protect it in shipping. It pleases all who use it.

MANUFACTURED BY  
**HEBERLING METAL ROOFING COMPANY, HAVANA, ILL.**

## Attention, Hardware Dealers.

Send for Circular and Price List of the  
**WOLVERINE HOG RINGER, the Best Ringer on the Market.**



**The SALEM WIRE NAIL CO.**  
MANUFACTURERS  
**Wire Nails**  
Works: SALEM, O.; FINDLAY, O.  
General Office: SALEM, OHIO.  
BRANCH OFFICES:  
261 Broadway, New York. 206 Phenix Bldg., Chicago.  
123 Souard Street, St. Louis. 4 Wiggins Block, Cincinnati.

**FRED. J. MEYERS MFG. CO.**  
COVINGTON, KY., Manufacturers of  
**WIRE GOODS OF ALL KINDS,**  
Wrought-Iron Fencing, Cresting and Hardware Specialties.  
Send for Illustrated Catalogue and Price List.  
Illustrations include: Conductors' Pouch, Flower Stand, Wrought-Iron Fence, Chair, Revolving Bench, Window Guard, Sand and Grain Riddle, Wire Counter Railing, Maching Bird Cage.

**OHIO BRICK AND TILE MACHINES,**  
Three sizes, with and without Crusher Rolls.  
**BUILDING, PAVING AND TILE BRICK,**  
CAPACITY:  
10,000 to 40,000 DAILY.  
Drain Tile, Hollow Building Blocks, &c.  
Unequaled.  
Write for Catalogue.  
**E. M. FREESE & CO.**  
Plymouth, O., U. S. A.

Subscribe to the Manufacturers' Record.

**THE CANTON STEEL ROOFING CO., CANTON, O.,**  
MANUFACTURERS OF  
**PATENT FOLDED LOCK SEAM STEEL ROOFING, CORRUGATED IRON.**  
SEND FOR CATALOGUE  
CRIMPED EDGE IRON ROOFING AND SIDING  
BEADED IRON SIDING & CEILING  
IRON FRAME BUILDINGS  
IRON DOORS & SHUTTERS  
PAINTS  
WATER PROOF SHEATHING PAPERS  
SAMPLES & PRICE LIST

## Eastern Lumber Markets.

[Special Cor. MANUFACTURERS' RECORD.]

NEW YORK, August 5, 1890.

The condition of the lumber trade in the East, so far as both Northern and Southern lumber are concerned, could not be much better than it is at this time of the year. The shippers of lumber have not been obliged to crowd Eastern markets with more lumber than they would readily take, and this has resulted in strong prices and an easy movement. Stocks are not in excess at any point. A great deal of lumber is arriving every day, but the greater part of it is for buyers who have placed their orders in advance. Liberal shipments are being made from the Lake ports. At Tonawanda a revival in demand has set in, orders arriving from all parts of the State of New York. At Philadelphia business is active with the wholesalers, who are piling up stock. The retailers are not doing very much just at present. There is no change in quotations at that point. Hemlock is steady and good sized orders are coming on the market. Two or three large contracts have been placed at Philadelphia for elevators. Reports from Williamsport show that business is quiet, but prices firm.

Advices from Boston show that spruce is in good demand at strong prices. Hemlock is moving well. Southern pine is arriving liberally and selling at quoted rates. There is a fair supply of walnut. Cherry is said to be scarce. High-grade quartered oak is selling freely at \$53 to \$56. The distribution of lumber through the smaller New England towns continues active, and builders and contractors are pushing work along as fast as possible. There are rumors of another carpenters' strike, but the subject is not attracting much attention, as it is believed that the agitation will be confined chiefly to the West.

The distribution of yellow pine from yards is going on at a satisfactory rate; a good deal of stuff is wanted just now for floorings. There is no decided change in quotations; here and there a lot is sold at something a little under the usual prices.

There is a fair demand for all kinds of hardwoods, and a good many shipments have been made to interior points. There is a good deal of inquiry at this point for hardwoods for delivery after September 1. The retailers are looking after supplies, having worked off most of the stocks they had in hand. There will be a more active demand for quartered oak, and poplar will continue to sell as it has done all season. There is a good demand for cherry, and if Western parties have good stocks to deliver, they will find ready buyers at good prices in September.

Very little pressure is brought to bear upon wholesalers or retailers with reference to prices; most buyers seem willing to pay market rates, particularly where they have no fault to find with the lumber.

Several consignments of poplar have been received within the past few days, and all has sold promptly on arrival. Those who make a specialty of handling poplar are endeavoring to make better terms with Tennessee manufacturers for prompt cash payments. 1-inch poplar, 10 inches, is quoted at \$31.50; 1-inch white ash is quoted to-day at \$36; strips, \$27; quarter-sawn oak, \$52.50; strips under 6 inches, \$42.

Several of our wholesalers have already made arrangements for about all the lumber they will be able to dispose of during the rest of the year, and consequently, when asked to handle outside lumber, they are not always prepared to do so, nor even to accept very favorable offers.

Building operations are being pushed with great vigor throughout the city and suburbs. New York expects to increase her importance commercially by an extended system of wharves, better transit facilities and bridges, and when all the contemplated improvements are made we will wonder how we got along without them.

**THOMAS J. SHRYOCK & CO.**  
**YELLOW PINE COMMISSION**  
**MERCHANTS.**  
Correspondence Solicited.  
**BALTIMORE AND WASHINGTON.**

**E. B. HUNTING & CO.**  
BALTIMORE, MD.  
JACKSONVILLE and FERNANDINA, FLA.  
and SAVANNAH, GA.

WHOLESALE MERCHANTS  
AND MANUFACTURERS OF

**Yellow Pine Lumber**

Buy for cash on cars at Mills and sell delivered to all points reached by rail or water. Write Baltimore Office.

**J. H. WILEY**  
GADSDEN, ALABAMA.

LARGE BODIES OF

**Iron, Coal and Timber Lands**  
FOR SALE.

Correspondence Solicited.

**600,000 ACRES**

OF

**North Carolina Timber and Agricultural Lands**

**ARE OFFERED FOR SALE**

BY

**"The Real Estate Investment Co."**

of Wilmington, N. C.

On these six hundred thousand acres will be found the best game preserves now left in the United States. Many tracts of this land are of great value, and they will be sold in a body or separately at reasonable prices which cannot fail to give to investors a large profit.

For further information apply to

**CHARLES M. STEDMAN, Prest.**  
WILMINGTON, N. C.

FOR THE BEST AND  
LOWEST PRICED  
**GANG LATH MILL**  
AND BOLTER COMBINED  
B. S. ABBOTT, OLEAN, N. Y.

Please mention this paper.

**Textile Machinery**  
FOR SALE.

Picking, Carding, Roving, Spinning, Spooling, Twisting, Reeling, Winding, Weaving and Finishing for Cotton and Woolen Mills. Very large stock to select from in our storehouses here, of over two acres of storage.

**JEREMIAH CLARK,**  
Lowell, Mass. Office, 63 Dutton St.

**OILLESS BEARINGS.**  
They will run for years without oil. Perfectly clean. No cutting or danger of fire from overheating. Send for New Circular of interest to users of Loose Pulleys.

North American Metal Co., 37 Bleecker St., N. Y. City.

**OLNEY BROTHERS,**  
N. E. Agents for  
Binghamton Cylinder & Spindle  
AND DEALERS IN  
Sperm, Lard, German,  
Spindle and Wool  
**OILS**  
140 CONGRESS ST., BOSTON, MASS.

**JOHNSON, SHRYOCK & CO.**  
**HARDWOOD COMMISSION**  
**MERCHANTS.**

Correspondence Solicited.

Office, - Shryock Building,  
BALTIMORE.

**F. H. DAVIS & CO.**

Dealers in New and Second-Hand

**Paper Mill Machinery**

No. 101 Milk Street, Boston.

**Gem Spring Hinges.**

SINGLE  
AND  
DOUBLE  
ACTING.



FOR  
SCREEN,  
MEDIUM  
AND  
HEAVY  
DOORS.

For Doors.	Length of Hinges.	Single Acting.	Double Acting.	Copper Bronzed Single Acting.	Copper Bronzed Double Acting.
Feet.	Inches.	pr.	pr.	pr.	pr.
6x3	3 1/2 to 1 3/4	3 1/2 in.	\$0.70	\$1.40	\$2.00
7x3	1 to 1 3/4	4	0.90	1.75	2.50
7x3 1/2	1 to 1 3/4	5	1.30	2.20	3.00
7x2 1/2	1 to 1 3/4	6	1.40	2.80	3.75
8x2 1/2	1 1/2 to 1 3/4	7	1.75	3.50	4.50
8x3	1 1/2 to 2 1/4	8	2.50	5.00	5.50
9x3	1 1/2 to 2 1/4	10	3.50	7.00	7.50
10x3	2 to 3	12	4.50	9.00	10.00

MANUFACTURED BY

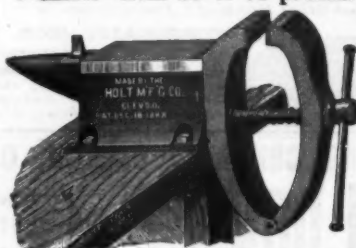
**VAN WAGONER & WILLIAMS CO.** New York.

Send for April (1889) Catalogue

**COMBINED ANVIL AND VISE.**

HARDENED FACE, STEEL JAWS.

5 SIZES—from 10 to 75 pounds.



Anvil and Vise can be used independent of each other. Illustrated Catalogue to all applicants, but discount to Trade Only.

**HOLT MANUFACTURING CO.**

1018 & 1020 First Av., Cleveland, O.

EASTERN AGENTS—MONTGOMERY & Co., 105

Fulton St., New York. WESTERN AGENTS—M. M.

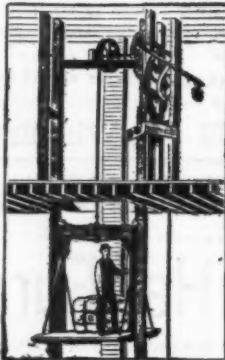
Buck & Co., St. Louis, Mo.

Discount to Trade only.

**Bates' Hand Elevators**

Pat. April 28, 1871. Released July 25, 1890.

OVER 6,000 IN USE.



Adapted for Warehouses, Stores, Factories, Hotels, Public Institutions and every place where merchandise, &c. is transferred from one story to another.

**JAMES BATES,**

PATENTEE,

Nos. 1, 3 & 5 President Street, BALTIMORE.

**The Jeffrey Mfg. Co.**

121 W. State St., Columbus, O.

MANUFACTURERS OF

**DETACHABLE CHAIN BELTING**

DESIGNED FOR

**Elevators, +**

**+ Conveyers,**

**DRIVING BELTS**

For Handling Barrels, Boxes, Bales, Grain, Coal, Ores, &c.

Illustrated 1890 catalogue sent on Application.

Correspondence solicited.

**JOYCE, CRIDLAND & CO.**

DAYTON, O.

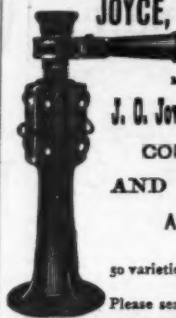
MANUFACTURERS OF

**J. O. Joyce's Patent Lever Jacks**

COMPOUND LEVER

AND SCREW JACKS,

And Bench Vises.



50 varieties of Lever and Screw Jacks for railroad use.

Please send for illustrated catalogue.

**COTTON SEED OIL MILLS.**

From 5 to 50 tons daily capacity.

These Mills have all the modern improvements and produce the most satisfactory results. Send for particulars.

Address: **H. W. HUBBARD,** ATLANTA, GA. OR DALLAS, TEX.

**GLOBE**  
STANDING SEAM IRON ROOFING CO.  
& CORRUGATING CO.  
CINCINNATI, O.

MANUFACTURERS OF SUPERIOR GRADES

**CORRUGATED IRON & STEEL**

ROOFINGS SIDINGS AND CEILINGS.

CORRESPONDENCE SOLICITED WITH DEALERS OR THOSE CONTEMPLATING BUILDING.

ESTIMATES AND PRICES FURNISHED PROMPTLY.

**RICHMOND IRON PAINT CO.**

WEATHERPROOF, WATERPROOF AND FIREPROOF.

Never Cracks, Blisters or Peels. Especially adapted for Tin, Zinc, Copper, Iron, Shingles and Board Roofs.



DAMP AND IMPERFECT WALLS ARE ALSO RENDERED DRY BY THE USE OF THIS PAINT AND CEMENT.

Agents wanted for the State of Maryland and all unclaimed territory in the South.

**N. T. PATE & CO.,** 1007 E. Cary St., Richmond, Va.

Gen. Agency "Vulcan Fire-Proof and Saltaria" Paints.

**PURE WATER FROM IRON**

**RUSTLESS PIPES**

The best for conveying water.

MADE BY THE  
**WELLS RUSTLESS IRON CO.**  
52 JOHN STREET,  
NEW YORK CITY.

BUT AND HELL. Second-hand Saw, Shave, Handing, Shingle, Saw Mill, Engines, Beliers, Churns and Ice Machinery, for Sale. Address Box 114, Cleveland, Ohio.

## GENERAL NOTES.

It is thought by many that the farmers stand a better chance of winning the fight against the jute trust this year than last. They won last year, and their war on jute brought the price far below trust figures, and this season jute is being offered at a still larger reduction in prices. Georgia has five cotton bagging mills at present, with prospects of more in the near future. These mills are situated at Augusta, Dalton, West Point and Rosedale, there being two at the first named city. Ten thousand yards of cotton bagging are said to have been already shipped to Southern Georgia for the early crop, and it is predicted that every bale of cotton in Georgia will be covered with cotton bagging, and not jute.

A CORRESPONDENT at New Orleans of the MANUFACTURERS' RECORD sends the following particulars of recent sales of timber lands: Cheseborough Bros., Toledo, Ohio, have bought 3,300 acres pine lands in Tangipahoa parish, La.; John P. Dunne, of Illinois, 3,000 acres cypress timber lands in the parish of St. John Baptiste, La.; Mrs. M. Edith Howcott, of New Orleans, 5,000 acres pine lands in Winn and Caldwell parishes. The State of Louisiana has donated to the several levee board commissioners all State lands south of the Red river. These lands are to be sold and the proceeds applied to building and strengthening levees. The legislature of Louisiana has by act advanced the price of school lands from \$1.25 to \$2.50 per acre, the lands to be sold at public auction. Recently an offer of \$4 per acre was made for all the State school lands in Rapides parish. Calvin Parlee, of Philadelphia, Pa., bought last March 7,500 acres pine lands in Marion county, Miss., for \$2.50 per acre. An offer of \$4 per acre was refused for this same tract. And so it goes—purchase good timber to-day, to-morrow an advance is offered.

THE shipments from the mines of the Cumberland coal region for one week recently were 76,311 tons, and for the past year 2,079,657 tons, an increase of 504,542 tons as compared with 1889. The Baltimore & Ohio shipped over its lines during one week 51,535 tons, and for the year 1,329,421 tons, an increase over last year of 167,449 tons.

AT Tacoma, Va., the "Gem of the Mountains," two saw mills have been erected, one by Hon. G. W. Kilgore and the other by Hon. W. T. Miller. Messrs. W. E. Kilgore and P. W. Carter have built a planing mill which is in operation. Streets are being graded, fills made, bridges constructed, and other improvements of that character are being rapidly pushed. The hotel which is being erected is now well under way, as are a number of store-houses and dwellings.

THE books of the county tax assessor of Hamilton county, Tenn., show the increase of assessable property in that county to be \$1,092,657 for 1890 over the year previous. The figures in gross for the county are \$21,053,977. This is the county in which Chattanooga is situated, and \$14,126,325 of the last named amount belong to that city.

A DISPATCH from Dadeville, Ala., says: "There is being organized a large syndicate of capitalists for the purpose of manufacturing lime and lumber and the mining of coal on the Columbus & Western Railroad, this side of Birmingham. A large body of land, some 1,600 to 1,700 acres, has been purchased for that purpose. The parties directly interested in this magnificent enterprise are men of ability and successful business men. They are Messrs. Steiner & Vaughan, Wm. Gray, W. H. Knight, J. F. Turner, Z. Jones Wright, Jr., and parties

in Birmingham. Messrs. Steiner & Vaughan are well known as the owners of the Chewacla lime works in Lee county, as well as those at Graysville, Ga. Mr. Gray is well known as a successful capitalist and president of the Tallapoosa County Bank, and a wholesale tobacco dealer in Birmingham. As soon as the organization can be perfected the improvement of the property will begin. Mr. Gray has been with us for a few days, but left yesterday for Birmingham."

THE East Shore Terminal Railroad Co., at Charleston, S. C., is gradually absorbing a large part of the East side wharf property, and a few days ago purchased another wharf for \$18,000. This makes seven wharves that have passed into the company's possession since it secured the franchise to construct the belt line some time ago. Including the franchise and cotton-press property, already acquired, the company now owns over \$600,000 worth of property in Charleston.

THE Look-ut Rolling Mills, of Chattanooga, will remove to Hariman, and will be operated under its present management. It will employ, it is said, about 300 men, and will be set up as soon as possible.

IMPROVEMENTS along the line of the Queen & Crescent Route are reported as follows: The new passenger station at Fort Payne, Ala., now being erected by the Queen & Crescent people, is to be composed entirely of Buena Vista stone; inside finish, hardwood. When completed it will equal in beauty and finish the finest railroad stations in New England. The contract for a new supply store-house on the Queen & Crescent grounds at Ludlow, Ky., has just been let. The building is to be of stone and brick, and will be very handsome. A contract has also been let for replacing with masonry the timber lining in tunnels Nos. 11 and 12, and eight iron bridges are under contract to replace wooden structures; when done the last wooden bridge will have disappeared from the Cincinnati Southern division of the Queen & Crescent Route.

It is somewhat bewildering to try to keep up with the new enterprises that the growing towns of Virginia are securing. Glasgow, for instance, which will probably shortly secure \$1,500,000 of English capital, is pushing ahead without waiting on outside money. Work has been commenced on two 100-ton furnaces, a contract has just been closed for the removal from Ohio of a rolling mill, and 100 houses are needed at once for the employees. While Glasgow is thus pressing forward, Buena Vista, the pioneer of Virginia's new industrial towns, keeps up its record of growth. As stated last week, the money has been secured for its steel plant, and a \$300,000 boiler and machine works company has been gathered in; a \$50,000 egg crate company organized and a \$75,000 cassimere mill is already under construction; other enterprises in treaty.

SALEM, VA., is able to boast that during July the aggregate sales of real estate in that town reached \$320,000, and that, too, without any special effort or any auction.

THE Financial News, of New York, says: "The cotton planters begin to talk prices on the seed product for next fall's delivery. They want \$13 per ton, and in some sections \$14 where parties show a disposition to contract ahead. New mills have been started this year, and the planters think the competition for seed will be sufficient for some independence on their part. There is, however, more than usual interest attached to the season's developments. The cotton-seed oil trade believe that there will be much contention this fall between the consumers and producers of seed. The

Southern planters made money last year, and they are in better position to withstand dictation over their products than in a long while. That they will hold for higher figures on cotton and seed is a foregone conclusion, and that the consumers will resist their claims is equally certain because of the relatively low rates for oil. There is a belief from the circumstances that the outturn of the oil will be late this year.

MR. THOMAS L. JAMES, ex-Postmaster-General and president of the Lincoln National Bank, New York, has been elected president of the East Tennessee Land Co., which is conducting operations at Hariman. The office of president was made vacant a few weeks ago by the death of Gen. Clinton B. Fisk.

It is stated that the negotiations for the purchase of the Louisville tobacco warehouses by an English syndicate have been almost completed.

STRONG efforts are being made to build up the oyster industry along the South Carolina coast, and, with that end in view, Congressman Wm. Elliott has induced the fish commissioner and the superintendent of the coast survey to make a survey of the oyster beds situated in the locality of Charleston, Wenhaw Bay and Beaufort. The plan at present is to locate the beds and determine the quantity and quality of the oysters with a view of establishing a market and improving the canning industry. It is thought that oysters are becoming abundant along the North and South Carolina coasts, and the inhabitants of the latter State are anxious to build up the trade and enter into competition with Baltimore as an oyster-packing center.

THE MANUFACTURERS' RECORD has several times described the wonderful Baker spring near Waynesboro, Va., which flows 7,000,000 gallons of water clear as crystal every day. It is a most beautiful spot admirably adapted for a great resort hotel for summer and winter guests. Boston capitalists, having investigated it, have determined, so we learn, to build a \$250,000 hotel there. This will prove a decided addition to the entire section, and Waynesboro and Basic City will both share in the benefits.

THE Kanawha City Co., of Charleston, W. Va., has been organized with A. C. Braxton, of Staunton, president, and J. Yost, of Iron Gate, vice-president. Among the directors are T. Terry and Arista Hoge, of Staunton, and W. T. McCue, of Iron Gate. The company owns valuable lands on the Kanawha opposite the city of Charleston.

REAL estate sales are active at Radford, Va. Recent reports from there say that Mr. J. R. Jordan has closed an option on 150 acres adjoining the town for \$40,000, and that the West End Radford Land Co. sold on one day 85 lots to a syndicate at an aggregate price of \$25,000.

A PLANTER in Alpharetta, Ga., has an acre of cotton, every stalk of which is said to be of a deep red color, leaf, boll and bloom. This novel crop is the product of seed derived three years ago from two stalks of red cotton found in a cotton-field. If this variety can be perpetuated it will likely mean a fortune to the successful planter.

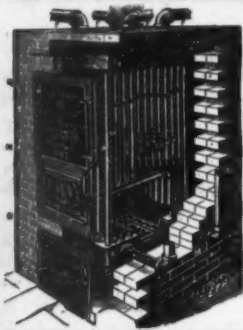
THE new industrial city of Graham, Va., is progressing splendidly, and the large steam saw mill is now turning out timber to be used in the erection of the furniture factory which will soon be built. The iron furnace will be in blast about October 15. Its capacity is to be 100 tons daily. The passenger depot of the Norfolk &

Western Railroad is nearing completion, and the hotel, which is to cost about \$50,000, will in all likelihood be opened to the public towards the middle of October. The machinery is now being put in for the flour mill and the ice factory. One hundred and fifty thousand dollars has been subscribed for a muck rolling mill, and the rolling mill company is now waiting to secure a manager with experience to assume charge and push the project to completion. The Graham Land & Improvement Co. still has from 100 to 150 very desirable lots for sale which remain in their hands, not having been disposed of on the day of sale.

ON September 3d, 4th and 5th the Middletown Immigration & Industrial Improvement Co., of Middletown, Va., will hold its third annual mass-meeting. Unlike many improvement associations this company is not a chartered corporation, but a society for the promotion of the welfare of Virginia by encouraging industrial development and immigration. The association has invited all the land, improvement and development companies in the State to attend and participate in the ceremonies and make what exhibits they may deem proper. President Barclay, of the Buena Vista Co., has heartily endorsed this latter project, and has signified his intention of attending. The meeting this year is to include an exposition of manufactured and farm products, which it is expected will greatly increase the interest heretofore taken. The Middletown Immigration & Industrial Improvement Association is the pioneer in improvement associations in Virginia. It was organized a little over three years ago. It then began publishing and circulating such information about the Old Dominion as was deemed most expedient. This matter, which amounted to over a million copies, was distributed over the North and Northwest, Canada, England, Ireland and Scotland. That the work of the association has been successful may be shown by glancing at the marvellous development which Virginia has reached in the past two years. Mr. C. B. Guyer is president of the association, and D. P. Miller, secretary. The Middletown Land & Improvement Co., which operates exclusively in Middletown, has commenced work on its hotel and its carriage factory.

THE Monroe Land Improvement Co., which was referred to recently in our Construction Department, has been organized at Monroe, N. C., under a very liberal charter, with the privilege of purchasing and developing town and city lots and disposing of the same. The company has secured options on 385 acres of land in the vicinity of Monroe, on which there are a number of dwellings, a cotton gin and press, saw mill and grist mill. About 284 acres of this land lies on the line of the Carolina Central Railroad. It is the purpose of the improvement company to lay out this property in town lots as rapidly as possible. Some of the property nearest the railroad will be reserved for manufacturing sites, which are to be donated for that purpose upon terms to be decided upon later. Monroe has at present about 2,500 inhabitants, and besides being on the Carolina Central, is the eastern terminus of the Georgia, Carolina & Northern Railroad. The officers of the company are: Mr. Luke A. Burke, of Aberdeen, S. D., president; Obed W. Carr, of Greensboro, N. C., vice-president; F. C. Beard, of Fayetteville, N. Y., general manager; John M. Fairley, of Monroe, treasurer, and John W. Townsend, also of Monroe, secretary.

MEMPHIS is trying hard to organize a State bankers' association, and, from present prospects, it looks as though she would succeed. Twelve banks and trust companies in that city have taken hold of the project, and are pushing it forward.



# BOLTON HOT WATER HEATER.

Best Record for Years of Service in Canada and the Blizzard Northwest.  
The Favorite in the Mild Climate of the Gulf States.  
Its Vertical Circulation renders its action prompt and rapid. Its Fire Surface is the largest in proportion to grate surface. No Bolted, Flanged or Packed Joints, therefore cannot leak. Its Brick Casing prevents loss of heat in cellar. Made of Wrought Iron, therefore cannot crack.

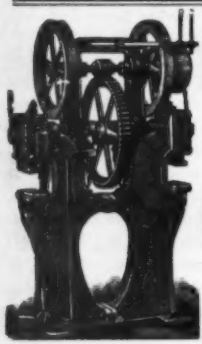
**DETROIT HEATING & LIGHTING CO.**  
88 Lake Street, CHICAGO. 359 Wight Street, DETROIT.

SEND FOR CIRCULARS.

**STANDARD RADIATORS,**  
ALL SIZES.  
Discounts to the Trade.



**COMBINATION GAS MACHINE.**  
BEST INDEPENDENT GAS APPARATUS for Country and Suburban Residences, Churches, Schools, Stores, Hotels, &c.  
Over 20 years in use with never an accident.  
Average Cost of Gas 1/2 Cent per Hour per Burner.



**THE Long & Allstatter Co.**  
HAMILTON, OHIO.

Double, Single, Angle-Bar, Gang, Horizontal, Twin, Boiler, Spacing, Gate, Multiple, BELT and STEAM-DRIVEN

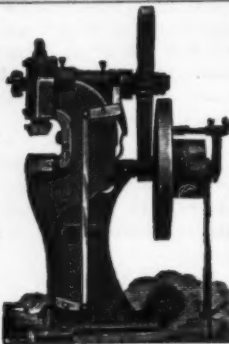
**Punches and Shears,**  
Over 300 Sizes.

ALSO  
**POWER CUSHIONED HAMMER.**

Small Double Machine.

Send for New Catalogues.

Small Single Machine.



## Laundry Machinery.

LARGEST STOCK. LATEST IMPROVEMENTS. FULLEST LINE.

Washing Machines,  
Ironing Machines,  
Centrifugal Machines,  
Mangles, Wringers, &c.  
BOILERS AND ENGINES.

OUTFITS FOR  
Hotels and Public Institutions.

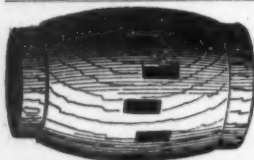
A SPECIALTY.

**THE A. M. DOLPH CO.**

222 WASHINGTON STREET,  
CHICAGO, ILL.

40 CORTLANDT STREET,  
NEW YORK.

COR. 9TH ST. & FREEMAN AVE.  
CINCINNATI, O.



**R. M. WHITNEY,**  
MANUFACTURER OF  
**BLACK BIRCH HUBS.**  
OLEAN, N. Y., U. S. A.

These Hubs are made in sizes from 6x8 to 16x18 inches, and are especially adapted to dry climates.  
Send for Circular and Prices.



**Waltham Emery Wheel Co.,** Manufacturers,  
WALTHAM, MASS.

By our various processes we can guarantee satisfaction for the greatest variety of work.  
**EMERY WHEEL MACHINERY.**  
EMERY, CORUNDUM, Etc.  
These wheels can be bought of our agents or ordered direct.

IRA DIMOCK, Pres.

Established 1867.

J. L. OTIS, Treas.

**Northampton Emery Wheel Co.**

MANUFACTURERS OF

**Premium Solid Emery**

AND  
**CORUNDUM WHEELS,**

AND ALL KINDS OF  
**Emery Wheel Machinery.**

**LEEDS, MASS.**

WESTERN BRANCH:

20 SOUTH CANAL STREET, CHICAGO, ILL.

**The Norton Patent Emery and Corundum Wheels**



Contain Nothing but Cutting Properties.  
Are Free from Dust or Smell.  
Will not Glaze or Fill Up.  
Are of Great Endurance on Hard Work.  
**WILL RUN EQUALLY WELL  
WET OR DRY.**

Complete illustrated catalogue mailed free upon application, containing full particulars in regard to

**EMERY WHEEL MACHINERY**

AND OTHER SPECIALTIES.

**THOS. K. CAREY & BROS.**

Southern Agents, 26 Light St., Baltimore.

## NIAGARA STAMPING & TOOL COMPANY

MANUFACTURERS OF

**Tinners' Machines and Tools,**

**SQUARING-SHEARS, PRESS DIES, &c.**

**FOR WORKING SHEET METAL.**

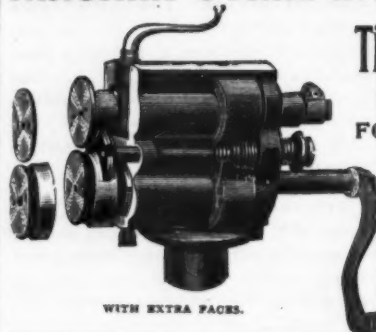
**Fruit Can Dies and Tools.**

**CANNERS' OUTFITS.**

OFFICE AND WORKS:

Cor. Randall & Superior Sts., Buffalo, N. Y.

Write for Catalogue and Price List, and mention this paper.



WITH EXTRA FACES.

## The LLOYD BOOTH CO., Youngstown, Ohio.

GUIDE,  
BAR,  
MUCK,  
SHEET  
AND PLATE  
MILLS.



SQUEEZERS,  
SHEARS,  
ORE MILLS,  
ROLL LATHES,  
SAND AND  
CHILL ROLLS,

Manufacturers of IRON AND STEEL WORKS MACHINERY.

## Sulphuric Acid Chambers

AND

## Acid Phosphate Works.

We are prepared to make bids to erect complete

## Acid Phosphate Works

AND

## Sulphuric Acid Chambers

In any part of the United States, or we will furnish complete

DESIGNS and SPECIFICATIONS.


## TOMPKINS, OLIVER & CO.

CHARLOTTE, N. C.





[FOR "CLASSIFIED INDEX," SEE PAGE 2.]

 **Western Block Co.**  
LOOKPORT, N. Y.  
"Anvil" Brand Tackle Blocks  
and Sheaves,  
For Manilla or Wire Rops, or Chains.

---

**FOR THE BEST MILL**  
FOR GRINDING AND DISINTEGRATING  
**Phosphates, Clays,**  
MINERAL AND ALL OTHER MATERIALS  
CORRESPOND WITH  
Stedman's Foundry & Mach Wks, Aurora, Ind.

---

**New Duty Manufacturing Co.**  
JANESVILLE, WIS.  
Manufacturers of Head and Tail Power  
Punching and Shearing Machinery,  
BOILER MAKERS' ROLLS, &c.

---

**CHICKASAW IRON WORKS,**  
MANUFACTURERS OF  
Wrought and Cast-Iron Work  
FOR BUILDINGS.  
Prismatic Tiling, Ventilators, Roof Trusses, &c.  
MEMPHIS, TENN.

---

**WEST POINT BOILER WORKS**  
Boilers built  
our patent  
& safe  
Manhole  
and  
just received  
And all  
kinds of  
Steel  
work  
done  
S. D. 10  
R. Munroe & Son  
23 & 25 Smallman St. Philadelphia Pa.

**W. A. RICHARDSON & CO.**

MANUFACTURERS OF STANDARD MEASURING

**CLOTH FOLDERS AND COTTON WINDERS,**

For Print and Dye Works, Bleacheries, Cotton, Gingham, Delaine Mills, Etc.

P. O. Box 964.

**WORCESTER, MASS.****HAVE YOU USED**

ANY OF OUR

**DOBBIES**

FOR Weaving Fancy Goods.

**THEY ARE BEST MACHINES IN EXISTENCE.**

Let us put in a sample machine. We have no fear of the result. Address us for prices and description.

**SCHAUM & UHLINGER,**

SUCCESSORS TO W. P. UHLINGER,

Glenwood Avenue and Second Street,

**PHILADELPHIA, PA.****Cotton and Woolen Mill Supplies.****WATERS & GARLAND,**

433 Main Street,

**LOUISVILLE, KY.**

Bobbins, Shuttles. Card Clothing, Roller Cloth, Dyestuffs, Sheep, Calf and Lamb Roller Skins, Ring Travelers, Heeds, Heddles, Banding, Tape, Lace Leather, Belting, Oils, etc.

Write for Discounts.

**VAN WINKLE GIN & MACHINERY CO.****ATLANTA, GA., and DALLAS, TEX.**

MANUFACTURERS OF

**COTTON GINS, FEEDERS,**

CONDENSERS AND PRESSES,

**COTTON-SEED OIL MILLS,**

SHAFTING, PULLEYS, WIND MILLS, TANKS, PUMPS, Etc.

**PIERCE, BUTLER & PIERCE MFG. CO.,**

MAIN OFFICE, SYRACUSE, N. Y., U. S. A.

NEW YORK

BOSTON

CHICAGO

60 Barclay St.

237 Franklin St.

96 Lake St.

MANUFACTURERS OF

**FLORIDA HEATING APPARATUS**

Made in 19 Sizes for Steam.

Made in 14 Sizes for Water.

Made in 15 Sizes for Soft Coal.

For STEAM or WATER,

HARD or SOFT COAL.

**THOUSANDS IN ACTUAL USE**

WASHINGTON, D. C. - N. L. CHAPPELLE &amp; CO.

BALTIMORE, MD. - ALVA HUBBARD &amp; CO.

KANSAS CITY, MO. - GORE HEATING &amp; PLUMBING CO.

ST. LOUIS, MO. - N. O. NELSON MFG. CO.

EUROPEAN AGENCIES: ROBERT DAWSON &amp; CO. LIMITED, ST. ALYBRIDGE, ENG.

AGENCIES: A. B. RECK, COPENHAGEN, DENMARK.

Write for our 3 catalogues.

**MORGAN'S IMPROVED****STEAM AND HOT WATER HEATING BOILERS,**

MANUFACTURED BY

**THE D. F. MORGAN BOILER COMPANY, AKRON, OHIO.**

CENTER FEED.

**Points of Superiority.**

Being sectional it can be taken into any building. Magazine being surrounded by water surfaces is not liable to burn off, and being in sections can be removed and replaced where ceilings are low.

It is the only return flue boiler having clean-out door, through which the internal fire surfaces may be thoroughly cleaned in five minutes. Each flue for cleaning has a separate stopper, so that there is no escape of dust during the operation.

It will carry steam 12 hours without attention.

It will positively do the work it is rated to do.

The circulation of steam or water is positive and noiseless.

It is thoroughly well made of the best materials.

All things considered it is the lowest-priced boiler in the market.

N. B.—The feature of a clean-out door on a return flue boiler is conceded by the most prominent engineers to be of the utmost importance. In fact one of the most important improvements connected with heating boilers.

**THADDEUS S. COBB & CO.**

MANUFACTURERS' AGENTS AND DEALERS IN

**MACHINERY** OF EVERY DESCRIPTION.

36 Central Street, Lowell, Mass.

**NYE & TREDICK**

MANUFACTURERS OF

Automatic Circular Rib

**Knitting Machines**

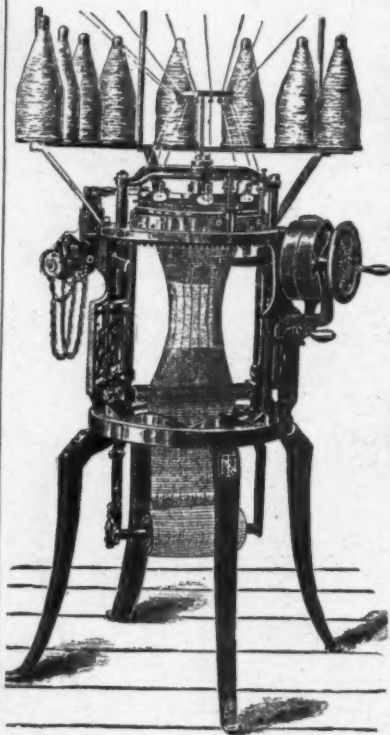
FOR

Plain and Fancy Ribbed Underwear, Skirts, Caps, Jackets, Jerseys, Leggings, &amp;c.

AGENTS FOR THE

**KEYSTONE KNITTER,**

FOR

**SEAMLESS HOSIERY.**

Winders, Loopers, Steam Presses, Hosiery and Shirt Boards, &amp;c.

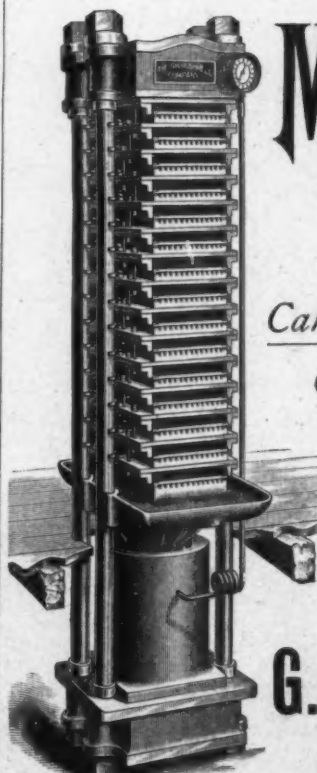
ADDRESS

NYE &amp; TREDICK, 608 Arch Street, Philadelphia, Pa.

**Cotton-Seed Oil Machinery.****GET THE BEST.***Presses, Pumps,**Cake Formers, Meal Heaters,**Chilled Roll Crushers,**Etc.*

Send for Cuts and Prices.

THE

**G. H. BUSHNELL CO.****THOMPSONVILLE, CONN., U. S. A.**

IMPROVED HYDRAULIC PRESS.

Our Oil Presses are fitted with Tiffany Oil Mats, Steel Boxes, Cast Steel Cylinders.

**NONE BETTER.**

# AMERICAN SUPPLY CO.

Formerly MYRON, FISH & CO., of Valley Falls, R. I., and KENDRICK, LOOM HARNESS CO., of Providence, R. I.

MANUFACTURERS OF

## LOOM HARNESS AND REEDS

OAK BELTING, LACE AND PICKER LEATHER,

And Dealers in Supplies for Cotton, Woolen and Silk Mills.

Agents for JOSEPH NOONE'S SONS' Roller, Slasher and Clearing Cloths.

Agents for Roddick's Patent Improved Oil Cans.

Calf, Sheep and Lamb Roller Skins and ROLL COVERERS' TOOLS.



WIRE GOODS OF ALL DESCRIPTIONS.

Shuttles and Heddle Frames, WIRE HEDDLES

We Have Unequalled Facilities

**SPECIAL NOTICE TO WORSTED AND SILK MILLS.**—We manufacture both Worsted and Cotton Machine-Knit Mall Harness for Weaving Fine Worsted and Silk Goods. Also a full line of Supplies for Jacquard Looms.

**Office and Salesrooms, 10 Exchange Place, PROVIDENCE, R. I.** **PROVIDENCE and VALLEY FALLS, R. I.**

A. D. LOCKWOOD, Pres.

JOHN KENDRICK, V.-Pres.

MYRON FISH, Treas.

JOHN A. CARTER, Secy.

JOSEPH H. KENDRICK, Gen. Agent.

## The BEST COTTON-SEED OIL PRESS IN THE MARKET

Boxes Made Entirely of Steel.

CAPACITY:

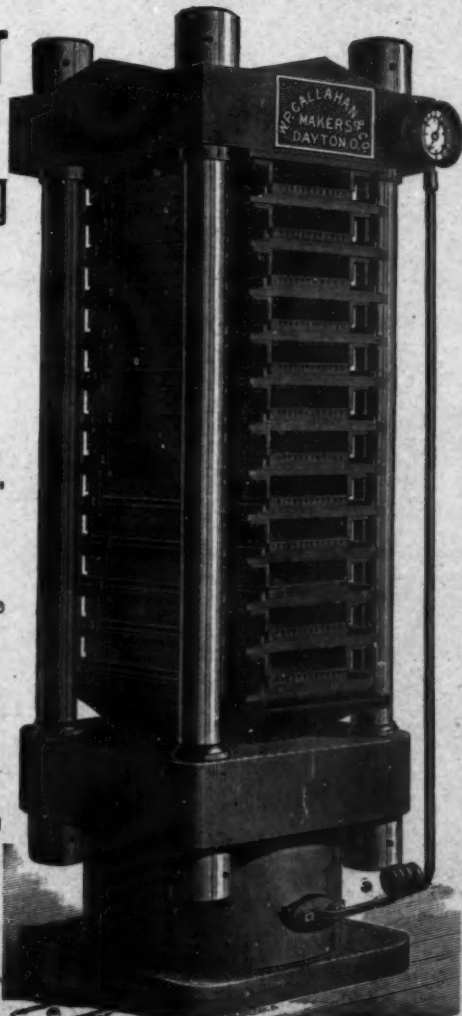
12 Tons in 24 Hours.

Parties contemplating the erection of Cotton-Seed Mills should address

**W. P. Callahan & Co.**

DAYTON,

OHIO.

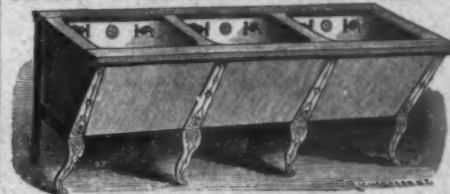


## STEWART CERAMIC COMPANY,

312 PEARL STREET, Corner Peck Slip, NEW YORK.

SOLE MANUFACTURERS, UNDER MORAHAN'S PATENTS, OF THE CELEBRATED

### SOLID WHITE CROCKERY STATIONARY WASH TUBS.



SHOWING THREE TUBS SET UP. Liberal Terms to the Trade. Send for Price List and Catalogue.

The Only Perfect Sanitary Tubs now in Existence. Very Strong. No Seams to Open. Absolute Cleanliness secured for all time. Well Glazed. Will not Absorb, Leak or Decay. The only Solid White Crockery Wash Tub ever made in the world. Do not buy imitations until you see the genuine 'Morahan's Patent' stamped on the front of every Tub. Washboard and Soap Cup moulded in every set. Will outlast any house. Solid White Crockery Sinks, comprising Butler's Pantry, Kitchen, etc. etc. Made of same material as the Tubs. Very strong, well glazed, no labor required to keep clean.

## MILNER & KETTIG,



**BIRMINGHAM, ALA.**

WRITE FOR CATALOGUE AND PRICES.

Prices guaranteed as low as any house in this line in the United States.

# BUY THE BRUSH

Then you will have the best of all

## Electric ★ Apparatus

Write immediately for a catalogue regarding

### Arc AND Incandescence, BRUSH LIGHTS AND MOTORS.

## The Brush Electric Co.

CLEVELAND, O.

### THE WEST SYSTEM OF Improved Sewerage.

Sewage Disposal Without Offence.

**NO SEWER GAS.**

Officials or other Responsible Parties please  
Send for Pamphlets.

### The National Sewerage & Sewage Utilization Co.

280 Broadway, New York.



### JENKINS BROS.' VALVES.

**W**ery valve tested and warranted, all parts interchangeable.  
**N**othing but best Steam Metal used in the manufacture.  
**K**eyed Stuffing Box and Disc Removing Lock Nut  
**I**s used only in the Jenkins Bros.' Valves.  
**N**one are genuine unless stamped with "Trade Mark."  
**S**hould you order **I**NSIST on having Jenkins Bros.' Valves.

71 John St., New York.  
21 N. Fifth St., Philad'a.  
54 Dearborn St. Chicago  
105 Milk St., Boston.

CENTRIFUGAL  
ROTARY AND PISTON  
PUMPS.

Also HOUSE PUMPS.

# PUMPS

FIRE ENGINES,  
HOOK AND LADDER  
TRUCKS  
And ROSE CARTS.

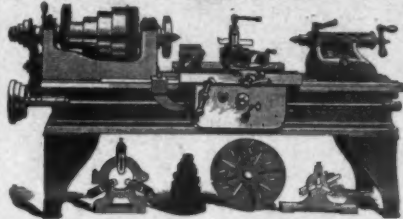
Send for Catalogue.

## RUMSEY & CO., Limited,

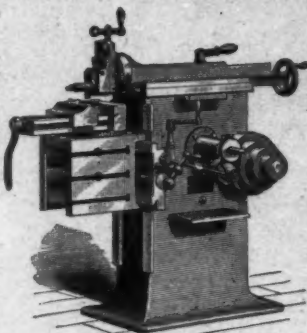
Seneca Falls, N. Y., U. S. A.

### SHAPERS, ENGINE LATHES AND DRILLS, THE LODGE & DAVIS MACHINE TOOL CO., CINCINNATI,

EASTERN HOUSE: 64 Cortlandt St., New York 66 & 70 S. Canal St. Chicago.  
WESTERN HOUSE: Boston, Phila. St. Louis, San Francisco.  
23-25 Purchase st. 19 N. 7th st. 823 N. 2d st. 12 California st.  
22", 24" Upright Drills. 25", 28", 32", 40", B. G. B. F. Drills.



27", 30", 32", 34", 36", 38", 40" ENGINE LATHES.



25 & 30-INCH CRANK SHAPER.

THREE TON

**\$35.**

Other sizes proportionately low.



Illustrated  
Catalogue  
FREE.

## OSGOOD STANDARD SCALES

Sent on Trial.

FREIGHT PAID.

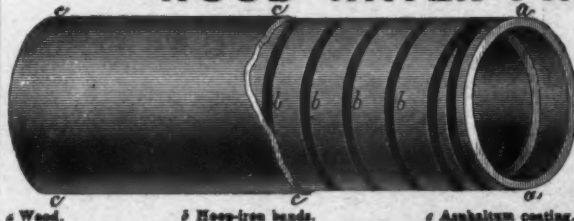
FULLY WARRANTED.

Satisfaction Guaranteed, or No Sale.

OSGOOD & THOMPSON, Binghamton, N. Y.

### A. WYCKOFF & SON, ELMIRA, N. Y.

### WOOD WATER PIPE

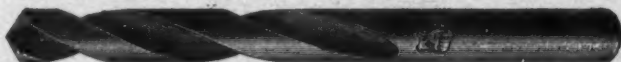


FOR  
Coal and Iron Mines  
COKE WORKS  
AND  
General Water  
SUPPLY.

SEND FOR  
CATALOGUES AND  
PRICES.



THE STANDARD TOOL COMPANY, Cleveland, Ohio.



Manufacturers of Bit Stock Drills, Straight Shank Drills, Taper Shank Drills  
Taper Reamers, Milling Cutters, Chucks, Hatchet Drills, Screw-Drivers  
Bits, Twist Drill Grinding Machines.

Use Our **No. 6 1-2 AXLE** For Trucks, Express and Delivery Wagons.  
CLEVELAND AXLE MFG. CO., Cleveland, Ohio.



## Buffalo Forges

BLOWERS & EXHAUSTERS.  
HEATING FURNACES, HAND BLOWERS.  
AND BLACKSMITH DRILLS.

BUFFALO FORGE CO.  
BUFFALO, N. Y.

Before Purchasing Elsewhere write us for Catalogue and Prices.

## The KILBOURNE & JACOBS MFG. CO.

COLUMBUS, OHIO, U. S. A.

